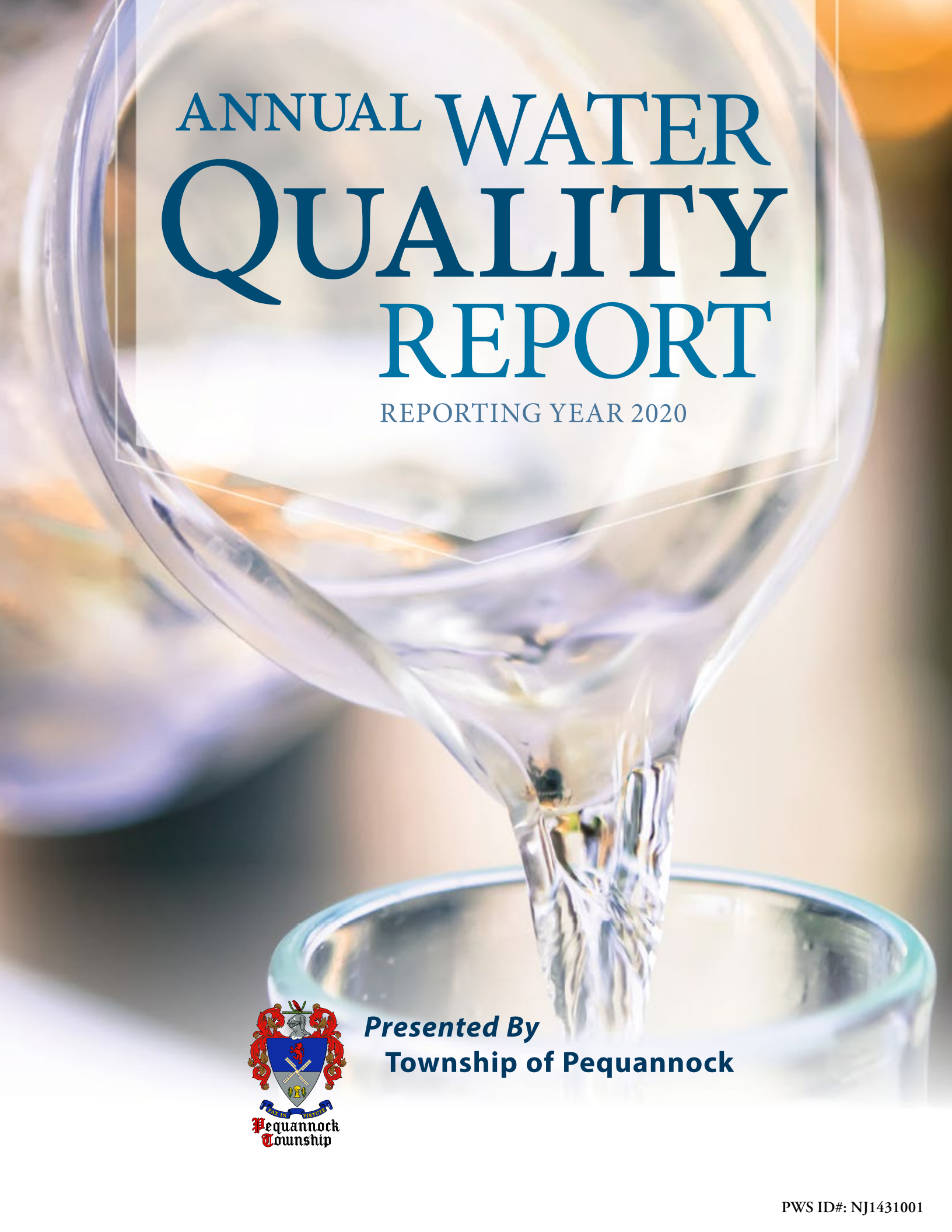


ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2020

Pequannock Township

Presented By

Township of Pequannock

PWS ID#: NJ1431001

Quality First

Once again, we are pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2020. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education, while continuing to serve the needs of all our water users. Thank you for allowing us the opportunity to serve you and your family.

We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

Where Does My Water Come From?

The Pequannock Township Water Utility is supplied by three groundwater wells located in the northern portion of the Township in the vicinity of West Parkway and the Boulevard. Depths of the wells range from 96 to 152 feet, which draw from the Buried Valley Aquifer.

In addition to the three Township wells, Pequannock's water system has two interconnections and a blending facility with the City of Newark water system. Newark's water comes from a surface source from the Pequannock Water Shed, which is supplied by five reservoirs: Charlottesburg, Echo Lake, Canistear, Clinton, and Oak Ridge. The purpose of these interconnections is to supplement the Township's supply of water. The purpose of the blending facility is to reduce the sodium and hardness levels. These interconnections exist along the aqueduct, which crosses the Township, and the connections are located at Hopper Avenue, Jefferson Street, and Mountain Avenue. During 2020, the approximate volume of water delivered from the Newark system represents 40.4 percent of the annual volume of water distributed by the Township.

> "We remain vigilant in delivering the best-quality drinking water"

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but 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 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 at (800) 426-4791 or at www.epa.gov/safewater/lead.

Water Stress

Water stress occurs when the demand for water exceeds the amount available during a certain period, or when poor water quality restricts its use. Water stress causes deterioration of fresh water resources in terms of quantity (aquifer over-exploitation, dry rivers, etc.) and quality (eutrophication, organic matter pollution, saline intrusion, etc.).

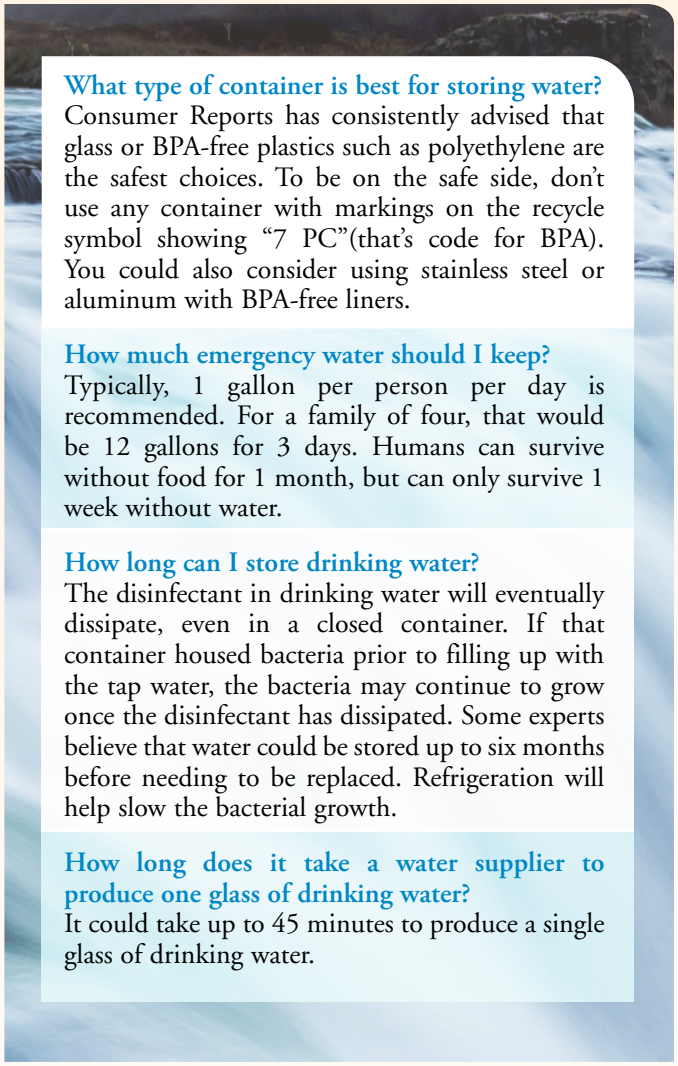
According to the World Resource Institute (WRI; www.wri.org), the Middle East and North Africa remain the most water-stressed regions on earth. However, several states in the western half of the U.S. are similarly experiencing extremely high levels of water stress from overuse. It is clear that even in countries with low overall water stress, individual communities within a country may still be experiencing extremely stressed conditions. For example, South Africa and the United States rank #48 and #71 on WRI's list, respectively, yet the Western Cape (the state home to Cape Town) and New Mexico experience extremely high stress levels.

There are undeniably worrying trends in water quality. But, by taking action now and investing in better management, we can solve water issues before it is too late.

Water Hardness

Hardness is the level of dissolved natural minerals (calcium and magnesium) found naturally in water. These minerals are an important part of a healthy diet. Hard water contains more mineral nutrients and less sodium. A gradual buildup of calcium and magnesium may form a harmless, filmy white deposit on faucets, and in tea kettles. Hard water also requires more soap to lather fully.

QUESTIONS? For more information about this report, or for any questions related to your drinking water, please call David Seugling, Licensed Water Operator, at (973) 835 5700, ext 191.



What type of container is best for storing water?
Consumer Reports has consistently advised that glass or BPA-free plastics such as polyethylene are the safest choices. To be on the safe side, don't use any container with markings on the recycle symbol showing "7 PC"(that's code for BPA). You could also consider using stainless steel or aluminum with BPA-free liners.

How much emergency water should I keep?
Typically, 1 gallon per person per day is recommended. For a family of four, that would be 12 gallons for 3 days. Humans can survive without food for 1 month, but can only survive 1 week without water.

How long can I store drinking water?
The disinfectant in drinking water will eventually dissipate, even in a closed container. If that container housed bacteria prior to filling up with the tap water, the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water could be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.

How long does it take a water supplier to produce one glass of drinking water?
It could take up to 45 minutes to produce a single glass of drinking water.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife; Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban storm-water 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 storm-water runoff, and residential uses; Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban storm-water runoff, and septic systems; Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Source Water Assessment

NJDEP has prepared Source Water Assessment reports and summaries for all public water systems. The Source Water Assessment for the Newark system (PWS ID 0714001) and NJDWSC system (PWS ID 1613001) can be obtained by accessing NJDEP's source water assessment web site at http://www.nj.gov/dep/watersupply/swap/index.html, or by contacting the NJDEP, Bureau of Safe Drinking Water at 609-292-5550 or watersupply@dep.nj.gov. If a system is rated highly susceptible for a contamination category, it does not mean a customer is – or will be – consuming contaminated water. The rating reflects the potential for contamination of a source water, not the existence of contamination. Public water systems are required to monitor for regulated contaminants and to install treatment if any of those contaminants are detected at frequencies and concentrations above allowable levels. The source water assessments performed on the intakes for each system lists the susceptibility ratings for a variety of contaminants that may be present in source waters as seen in the tables below.

SURFACE WATER INTAKES	PATHOGENS	NUTRIENTS	PESTICIDES	VOLATILE ORGANIC COMPOUNDS	INORGANICS	RADIONUCLIDES	RADON	DISINFECTION BYPRODUCT PRECURSORS
Newark	High	Low	Low	Low	High	Low	Low	High

	PATHOGENS			NUTRIENTS			PESTICIDES			VOLATILE ORGANIC COMPOUNDS			INORGANICS			RADIONUCLIDES			RADON			DISINFECTION BYPRODUCT PRECURSORS		
Source	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L
Wells (3)			3	3				1	2	2		1		3		2	1		2	1			3	

If you would like a copy of our assessment, please feel free to contact our office during regular business hours at the number provided in this report.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. And, the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The State recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES [1]

				Township of Pequannock		City of Newark			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2020	2	2	<0.1	NA	0.00665	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2020	[4]	[4]	NA	0.05–1.2	NA	NA	No	Water additive used to control microbes
Combined Radium (pCi/L)	2020	5	0	1.5	NA	1.5[2]	NA[2]	No	Erosion of natural deposits
Cyanide (ppb)	2020	200	200	1.2	NA	NA	NA	No	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
Haloacetic Acids [HAAs] (ppb)	2020	60	NA	34.47	8.17–46.37	NA	NA	No	By-product of drinking water disinfection
Mercury [inorganic] (ppb)	2020	2	2	0.2	NA	0.2	NA	No	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland
TTHMs [Total Trihalomethanes] (ppb)	2020	80	NA	46.68	25.04–66.90	NA	NA	No	By-product of drinking water disinfection
Total Organic Carbon [TOC] (removal ratio)	2020	TT	NA	NA	NA	NA	1.08–1.45	No	Naturally present in the environment
Turbidity (NTU)	2020	TT	NA	NA	NA	2.11[3]	0.01–2.11	No	Soil runoff
Turbidity (lowest monthly percent of samples meeting limit)	2020	TT = 95% of samples meet the limit	NA	NA	NA	99.6	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	January-June 2020	1.3	1.3	0.140	0/60	No	Corrosion of household plumbing systems; Erosion of natural deposits
	July-December 2020			0.167	0/60		
Lead (ppb)	January-June 2020	15	0	5	3/60	No	Lead services lines Corrosion of household plumbing systems, including fittings and fixtures; Erosion of natural deposits
	July-December 2020			6	3/60		

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	RUL	MCLG	Township of Pequannock AMOUNT DETECTED	Township of Pequannock RANGE LOW-HIGH	City of Newark AMOUNT DETECTED	City of Newark RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Hardness [as CaCO3] (ppm)	2020	250	NA	320	NA	45.7	NA	No	Naturally occurring
Sodium[4] (ppm)	2020	50	NA	86.4	NA	23.5	NA	No	Naturally occurring

STAGE 2 DISINFECTANT BYPRODUCTS

SAMPLE POINT ID		MCL	RANGE	LOCATIONAL RAA	VIOLATION	TYPICAL SOURCE
TTHMs Total (ppb)	1	80	29.20–58.80	46.68	N	By-product of drinking water disinfection.
	2		25.40–66.90	39.65	N	
	3		35.80–58.90	45.18	N	
	4		33.00–54.20	44.13	N	
Haloacetic Acids [HAAs] (ppb)	1	60	8.17–33.30	25.81	N	By-product of drinking water disinfection.
	2		14.14–30.06	27.79	N	
	3		8.83–46.37	34.47	N	
	4		16.71–44.50	34.27	N	

[1] Under a waiver granted on December 30, 1998, by the State of New Jersey Department of Environmental Protection, our system does not have to monitor for synthetic organic chemicals/pesticides because several years of testing have indicated that these substances do not occur in our source water. The SDWA regulations allow monitoring waivers to reduce or eliminate the monitoring requirements for asbestos, volatile organic chemicals and synthetic organic chemicals. Our system received monitoring waivers for synthetic organic chemicals and asbestos.

[2] Sampled in 2017.

[3] Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system. The turbidity rule requires that 95% or more of the monthly samples must be less than or equal to 0.3 NTU (no sample may exceed 1 NTU). On 9/25/2020, the turbidity at the treatment plant rose rapidly due to equipment failure of valve overfeeding a coagulant chemical. The valve was repaired on the afternoon of 9/26/2020, chlorine level were adjusted as needed to provide additional disinfection, and sampling were done to ensure the absence of coliform bacteria.

[4] For healthy individuals, the sodium intake from water is not important, because a much greater intake of sodium takes place from salt in the diet. However, sodium levels above the recommended upper limit may be a concern to individuals on a sodium-restricted diet.

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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 contaminants.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

ppt (parts per trillion): One part substance per trillion parts water (or nanograms per liter).

removal ratio: A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.

RUL (Recommended Upper Limit): These standards are developed to protect aesthetic qualities of drinking water and are not health based.

TON (Threshold Odor Number): A measure of odor in water.

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