



# **2020 ANNUAL DRINKING WATER QUALITY REPORT**

## **NEWTOWN ARTESIAN WATER COMPANY, PWSID 1090043**

**Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, ó hable con alguien que lo entienda.** (This report contains important information about your drinking water. Translate it or speak with someone who understands it.)

### **Introduction**

The Newtown Artesian Water Company (NAWC) is pleased to present our 2020 Drinking Water Quality Report. We are committed to providing a safe and dependable supply of good quality drinking water to our valued customers in the Newtown area. We are happy to inform you that your drinking water is in full compliance with current water quality standards established by the United States Environmental Protection Agency (EPA) under the Safe Drinking Water Act (SDWA). Our dedicated staff takes pride in providing high quality drinking water and superior customer service, at a reasonable price. If you have any questions about this report or concerning your water quality, please contact the NAWC office at 215-968-6781.

### **Violations**

NAWC had three monitoring/reporting violations for Disinfectant Residual in 2020. After review, it was found that the monthly samples for Disinfectant Residual at our three wellfields for July were collected but were reported late. Following Pennsylvania Department of Environmental Protection (DEP) notification, the results were promptly reported, and compliance was achieved.

### **NAWC Water System**

The NAWC water system is supplied by five (5) groundwater sources (Wells 4A, 5, 6, 14 and 18), and through interconnections with the Bucks County Water and Sewer Authority (BCWSA) and the Pennsylvania American Water Company (PAWC).

The groundwater supplies are located throughout the NAWC service area. Wells 14 and 18 were not in use in 2020.

The water purchased from BCWSA is a combination of water supplied by North Wales Water Authority (NWWA) and Lower Bucks County Joint Municipal Authority (LBCJMA). NWWA supplies surface water from the Delaware River/North Branch Neshaminy Creek that has been treated at the Forest Park Water Treatment Plant (WTP). LBCJMA supplies a combination of surface water from the Delaware River that is treated at their water treatment plant and groundwater from five (5) wells.

The water purchased from PAWC is a surface water supply also originating from the Delaware River and treated at PAWC's Yardley WTP and groundwater from four (4) wells.

At the end of 2020, we provided service to 10,550 customers in Newtown Borough, Newtown Township and a portion of Middletown Township north and west of Core Creek.

Our 2020 average system demand equaled 1.981 million gallons per day. The well supplies provided 38.9 percent of the total supply. Our well water receives disinfection treatment using sodium hypochlorite and corrosion control treatment using polyphosphate. The purchased water from BCWSA and PAWC receives complete treatment, including filtration, at the Forest Park WTP/LBCJMA WTP and Yardley WTP, respectively. Purchased water provided 61.1 percent of the total supply in 2020 (BCWSA – 85.6 percent, PAWC – 14.4 percent). Additional treatment provided to the BCWSA and PAWC supplies includes: the addition of sodium hypochlorite to generate/maintain a free chlorine residual within the distribution system. The purchased water from BCWSA is also treated with polyphosphate.

## **Source Water Assessment**

A *Source Water Assessment* of our groundwater supply sources was completed by DEP in June 2005. The Assessment has found that we are potentially most susceptible to contamination from transportation corridors. Potential pollutants used in residential and commercial areas also pose a threat to our wells. A summary report of the Assessment is available on the DEP Source Water Assessment & Protection Web page at ([www.elibrary.dep.state.pa.us/dsweb/View/Collection-10045](http://www.elibrary.dep.state.pa.us/dsweb/View/Collection-10045)). Complete reports were distributed to municipalities, water suppliers, local planning agencies and DEP offices. Copies of the complete report are available for review at the DEP Southeastern Regional Office, Records Management Unit.

## **Water Quality**

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 human activity. 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 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 stormwater runoff and residential uses.
- *Organic Chemical Contaminants*, including synthetic and volatile organics, 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.

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

In addition to monitoring of certain contaminants governed by the EPA, there are other contaminants that are not regulated. These unregulated contaminants are monitored to help EPA determine where those contaminants occur and whether those contaminants should be regulated in the future.

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline at (800) 426-4791 or by visiting the EPA's drinking water website [www.epa.gov/safewater](http://www.epa.gov/safewater). NAWC works with local and state agencies to address water quality issues and protect its sources from contamination.

## **Monitoring Your Water**

We routinely monitor for contaminants in your drinking water according to federal and state laws. The tables on the following pages show the results of monitoring for the period of January 1 to December 31, 2020. DEP allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data is from prior years in accordance with the SDWA. The dates have been noted on the sampling results table.

On the following pages there are three (3) different sets of water quality tables:

- On pages 4 and 5 you will find Detected Contaminants for the water supplied by the NAWC groundwater wells and the water within the NAWC distribution system.
- On pages 6 through 9 you will find Detected Contaminants tables representative of water purchased from the PAWC's Yardley System.

- On pages 10 through 12 you will find Detected Contaminants tables representative of water purchased from BCWSA.

As is shown in the following Detected Contaminants tables, our water system had no water quality violations in 2020.

## **Definitions**

The following definitions will help you understand the key terms and abbreviations contained in the following Detected Contaminants table:

- *Action Level (AL)* – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- *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 using the best available treatment technology.
- *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 the 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 health risk. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.
- *Minimum Residual Disinfectant Level (MinRDL)* – The minimum level of residual disinfectant required at the entry point to the distribution system.
- *Not Applicable (N/A)* – Does not apply.
- *Nephelometric Turbidity Unit (NTU)* – Measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- *Non-Detects (ND)* – Laboratory analysis indicates that the constituent is not present.
- *Parts Per Million (ppm) or Milligrams per Liter (mg/L)* – One part per million corresponds to one minute in two years or a single penny in \$10,000 (1 ppm = 1,000 ppb).
- *Parts Per Billion (ppb) or Micrograms Per Liter ( $\mu\text{g/L}$ )* – One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000 (1,000 ppb = 1 ppm).
- *Pico Curies Per Liter (pCi/L)* – A measure of radioactivity.
- *Treatment Technique (TT)* – A required process intended to reduce the level of a contaminant in drinking water.

**Detected Contaminants**  
**Newtown Artesian Water Company (NAWC) – Well Supplies**

Microbial Contaminants	MCL	MCLG	Highest Result or % of Positive Samples	Range of Detections	Violation	Sources of Contamination
Total Coliform Bacteria	1 positive monthly sample	0 positive monthly samples	1 positive monthly sample	ND - 1	No	Naturally present in the environment

Inorganic Chemicals (IOCs)	Highest Result	Range of Detections	MCL in CCR units	MCLG	Violation	Sources of Contamination
Arsenic (ppb) (2018 data)	ND	ND	10	0	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronic production wastes
Barium (ppm) (2018 data)	0.48	0.20 – 0.48	2	2	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Cadmium (ppb) (2018 data)	ND	ND	5	5	No	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; Runoff from waste batteries and paints.
Chromium (ppb) (2018 data)	ND	ND	100	100	No	Discharge from steel and pulp mills; Erosion of natural deposits.
Fluoride (ppm) (2018 data)	ND	ND	2	2	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nickel (ppb) (2018 data)	ND	ND	100	100	No	Erosion of natural deposits.
Nitrate (ppm) (2020 data)	3.8	1.7 – 3.84	10	10	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Selenium (ppb) (2018 data)	ND	ND	50	50	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.

Entry Point Disinfectant Residual – Chlorine <sup>(1)</sup>	Lowest Result	Range of Detections	MinRDL	MRDLG	Violation	Sources of Contamination
Wells 4&5 (ppm)	0.82	0.82 – 1.75	0.75	N/A	No	Water additive used to control microbes.
Well 6 (ppm)	0.97	0.97 – 1.69	0.40	N/A	No	
Wells 14&18 (ppm)	N/A	N/A	0.50	N/A	No	

<b>Lead and Copper</b>	<b>90<sup>th</sup> Percentile</b>	<b>No. of Sites above AL</b>	<b>Action Level</b>	<b>MCLG</b>	<b>Violation</b>	<b>Sources of Contamination</b>
Lead (ppb) (2019 data)	ND	0	15	0	No	Corrosion of household plumbing systems; Erosion of natural deposits.
Copper (ppm) (2019 data)	0.29	0	1.3	1.3	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.

<b>Disinfectants / Disinfection Byproducts (NAWC)</b>	<b>Highest Result</b>	<b>Range of Detections</b>	<b>MCL or MRDL</b>	<b>MCLG or MRDLG</b>	<b>Violation</b>	<b>Sources of Contamination</b>
Distribution Chlorine Residual (ppm)	1.37 <sup>(2)</sup>	1.20 – 1.37 <sup>(2)</sup>	4	4	No	Water additive used to control microbes.
Haloacetic Acids (ppb)	14.28 <sup>(3)</sup>	9.61 – 18.4 <sup>(4)</sup>	60	N/A	No	Byproduct of drinking water disinfection.
Total Trihalomethanes (ppb)	25.3 <sup>(3)</sup>	10 – 49.6 <sup>(4)</sup>	80	N/A	No	Byproduct of drinking water disinfection.

<b>Radionuclides</b>	<b>Highest Result</b>	<b>Range of Detections</b>	<b>MCL</b>	<b>MCLG</b>	<b>Violation</b>	<b>Sources of Contamination</b>
Alpha Emitters (pCi/l)	6.2	2.3 – 6.2	15	0	No	Erosion of natural deposits.
Combined Uranium (ppb) (2017 & 2020 Data)	4.04	ND – 4.04	30	0	No	Erosion of natural deposits.
Radium –226 & 228 (ppm)	1.6	ND – 1.6	5	0	No	Erosion of natural deposits.

(1) Results presented in the table are for free chlorine from NAWC.

(2) Monthly average values.

(3) Highest Running Annual Average (RAA).

(4) Range represents sampling at individual sample points.

## Detected Contaminants

### Pennsylvania American Water Company – Yardley System

#### Water Quality Statement

We are pleased to report that during calendar year 2020, the results of testing our drinking water complied with all state and federal drinking water requirements.

For your information, we have compiled a list in the table below showing the testing of your drinking water during 2020. The PA DEP allows us to monitor for some contaminants less than once per year because the concentration of the contaminants does not change frequently. Some of our data, though representative, are more than one year old.

Pennsylvania American Water conducts extensive monitoring to determine if your water meets all water quality standards. The detections of our monitoring are reported in the following tables. While most monitoring was conducted in 2020, certain substances are monitored less than once per year because the levels do not change frequently. For help with interpreting the tables below, see the "Definition of Terms Used in This Report" on the previous page. Some unregulated substances are measured, but maximum contaminant levels have not been established by the government. These contaminants are shown for your information.

**NOTE: Regulated contaminants not listed in this table were not found in the treated water supply.**

TURBIDITY – Continuous monitoring at the surface water treatment plant							
Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Highest Single Measurement and Lowest Monthly % of Samples $\leq$ 0.3 NTU	Sample Date of Highest and Lowest Compliance Result	Typical Source
Turbidity (NTU)	2020	Yes	0	TT: Single result $>$ 1 NTU	0.2	10/16/2020	Soil runoff.
	2020	Yes	NA	TT: At least 95% of samples $\leq$ 0.3 NTU	100%	NA	Soil runoff.

LEAD AND COPPER MONITORING - At least 30 tap water samples are collected at customers' taps every 3-years								
Substance (with units)	Year Sampled	Compliance Achieved	MCLG	Action Level (AL)	90 <sup>th</sup> Percentile	No. of Homes Sampled	Homes Above Action Level	Typical Source
Lead (ppb)	2019	Yes	0	15	2.4	36	0	Corrosion of household plumbing systems.
Copper (ppm)	2019	Yes	1.3	1.3	0.09	36	0	Corrosion of household plumbing systems.

TOTAL COLIFORM MONITORING - At least 30 samples collected each month throughout the distribution system						
Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Highest No. of Samples	Typical Source
Total Coliform	2020	Yes	0	MCL = No more than 1 positive monthly sample	1	Naturally present in the environment.
E. Coli	2020	Yes	0	TT = No confirmed samples	0	Human and animal fecal waste.

NOTE: Coliforms are bacteria that are naturally present in the environment and are used as an indicator of the general bacteriological quality of the water. We are reporting the highest percentage of positive samples / highest number of positive samples in any month.

**DISINFECTANT RESIDUAL MONITORING - Collected at the water treatment facility entry point and within the distribution system**

Substance (with units)	Year Sampled	Compliance Achieved	MRDLG	MRDL	Minimum Required Chlorine Residual	Compliance Result	Range Detected	Typical Source
Entry Point Chlorine Residual (ppm) <sup>1</sup>	2020 Entry Point 101 Yardley WTP	Yes	4	4	0.20	0.7	0.7 to 2.85	Water additive used to control microbes.
	2020 Entry Point 104 Highland Drive	Yes	4	4	0.20	0.1	0.1 to 3.21	Water additive used to control microbes.
	2020 Entry Point 107 College Avenue	Yes	4	4	0.40	0.6	0.6 to 2.76	Water additive used to control microbes.
Distribution System Chlorine Residual (ppm) <sup>2</sup>	2020	Yes	4	4	0.20	1.86	0.81 to 1.86	Water additive used to control microbes.

1 - Result represents the lowest residual entering the distribution system from the surface water treatment plant and groundwater stations, which was not less than the required minimum for more than 4-hours.

2 - Result represents the highest monthly average of chlorine residuals measured throughout the distribution system.

**DISINFECTION BY-PRODUCT MONITORING - Collected in the distribution system**

Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Highest Compliance Result	Range Detected	Typical Source
Total Trihalomethanes (TTHMs) (ppb)	2020	Yes	NA	80	46	15 to 73	By-product of drinking water disinfection.
Haloacetic Acids (HAAs) (ppb)	2020	Yes	NA	60	36	20 to 55	By-product of drinking water disinfection.

NOTE: Compliance is based on the running annual average at each location. The Highest Compliance Result reflects the highest average at any location and the Range Detected reflects all samples from this year used to calculate the running annual average.

**DISINFECTION BY-PRODUCTS PRECURSOR REMOVAL - Collected at the surface water treatment plant**

Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Range of % Removal Required	Range of % Removal Achieved	Number of Quarters Out of Compliance	Typical Source
Total Organic Carbon (TOC)	2020	Yes	NA	TT	25% - 35%	18% - 44%	0	Naturally present in the environment.

NOTE: Compliance achieved based on the approved alternative criteria for an annual running average source water TOC of less than 2 ppm.

**OTHER REGULATED SUBSTANCES - Collected at the water treatment facility**

Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Highest Compliance Result	Range Detected	Typical Source
Nitrate (ppm)	2020	Yes	10	10	3.6	0.5 to 3.6	Runoff from fertilizer use; industrial or domestic wastewater discharges; erosion of natural deposits.
Sodium (ppm) <sup>1</sup>	2020	NA	NA	NA	28.2	20.1 to 28.2	Sodium is a natural constituent of raw water, but its concentration can be increased by pollution sources such as rock salt treatment, run-off, and detergents.
Hexachloro cyclopentadiene (ppm)	2020	NA	50	50	0.01	ND - 0.1	Discharge from chemical factories.

1 - 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 of 20 ppm may be of concern to individuals on a sodium restricted diet.

**SECONDARY CONTAMINANTS & OTHER MONITORING - Collected at the water treatment facility**

Substance (with units)	Year Sampled	SMCL	Average Result	Typical Source
pH <sup>1</sup>	2020	6.5 - 8.5	7.58	pH is an expression of the acidic or basic condition of a liquid (scale 0 to14), with neutral being 7. Adjusted to maintain optimal corrosion control.
Iron (ppm) <sup>1</sup>	2020	0.3	0.02	Corrosion of pipes; leaching of iron salts from soil and rocks, and industrial pollution. Essential dietary trace nutrient
Manganese (ppm) <sup>1</sup>	2020	0.05	0.061	Naturally-occurring elemental metal; largely used in aluminum alloy production. Essential dietary trace nutrient.
Hardness (ppm)	2020	NA	68	Represents the total concentration of calcium and magnesium ions, reported as calcium carbonate.
Phosphate (ppm)	2020	NA	1.02	Chemical added to water to reduce corrosion tendencies of the water as it travels from the treatment plant to our customer's homes.
Zinc (ppm)	2020	0.05	0.3	Naturally-occurring by erosion of minerals from rocks and soil.

1 - Secondary contaminants with SMCLs are primarily established to address aesthetic concerns.



### UNREGULATED PERFLUORINATED COMPOUNDS

Substance	Units	Average Result	Range Detected	Typical Source
Perfluorooctanoic Acid (PFOA)	ppt	8.78	7.5 to 11.4	Used for its emulsifier and surfactant properties in or as fluoropolymers (such as Teflon), fire fighting foams, cleaners, cosmetics, lubricants, paints, polishes, adhesives and photographic films
Perfluoropentanoic Acid (PFOS)	ppt	6.1	3.2 to 8.9	Manmade chemical; used in products for stain, grease, heat and water resistance

### UNREGULATED CONTAMINANT MONITORING

Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is necessary. Every five years, the EPA issues a new list of no more than 30 unregulated contaminants to be monitored.

### UCMR 4 – UNREGULATED CONTAMINANTS

Parameter	Units	Year	Average Result	Range Detected	Typical Source
Bromochloroacetic Acid	ppb	2019 - 2020	1.9	1.5 to 2.9	By-product of drinking water disinfection
Bromodichloroacetic acid	ppb	2019 - 2020	1.7	0.8 to 3.6	By-product of drinking water disinfection
Dichloroacetic Acid	ppb	2019 - 2020	15	10 to 24	By-product of drinking water disinfection
Monochloroacetic Acid	ppb	2019 - 2020	ND	ND to 3.0	By-product of drinking water disinfection
Trichloroacetic Acid	ppb	2019 - 2020	23	9.3 to 46	By-product of drinking water disinfection
Total Haloacetic Acids	ppb	2019 - 2020	41	22 to 77	By-product of drinking water disinfection
Total Haloacetic Acids - Br	ppb	2019 - 2020	3.7	2.3 to 6.7	By-product of drinking water disinfection
* Manganese	ppb	2019 - 2020	5	ND to 13	Naturally-occurring elemental metal; largely used in aluminum alloy production. Essential dietary element.

\* Manganese has a Secondary MCL of 50 ppb.

## Detected Contaminants Bucks County Water & Sewer Authority

In order to ensure that tap water is safe to drink, the EPA and PA DEP prescribe regulations that limit the amount of certain contaminants in water provided by public water suppliers. The tables that follow list all of the drinking water contaminants that were detected during the 2020 calendar year. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data is from testing done January 1 – December 31, 2020. The state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently.

Chemical Contaminants								
Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Level Detected	Range		Sample Date	Violation	Typical Source
				Low	High			
Chlorine (ppm)	4	4	0.81	0.59	0.81	2020	No	Water additive used to control microbes
Chromium (ppb)	100	100	1.4	ND	1.4	2020	No	Discharge from steel and pulp mills; erosion of natural deposits
Barium (ppm)	2	2	0.019	0.017	0.019	2020	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	2	2	0.56	0.101	1.02	2020	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (ppm)	10	10	1.0	ND	1.0	2020	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Disinfection Byproducts								
Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Level Detected	Range		Sample Date	Violation	Typical Source
				Low	High			
Haloacetic Acids (HAA5) (ppb)	NA	60	45.5	5.39	88.1	2020	No	By-product of drinking water chlorination
Total Trihalomethanes (TTHMs) (ppb)	NA	80	67.1	12.6	160	2020	No	By-product of drinking water disinfection
Bromate (ppb)	0	10	2.0	1.5	2.2	2020	No	By-product of drinking water disinfection

Lead and Copper — Samples are collected from consumers taps, 90 <sup>th</sup> percentile reported							
Contaminants	MCLG	AL	Level Detected	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source
Lead – AL at consumer taps (ppb)	0	15	ND	2020	0 out of 62	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper – AL at consumer taps (ppm)	1.3	1.3	0.197	2020	0 out of 62	No	Corrosion of household plumbing systems; erosion of natural deposits

Turbidity						
Contaminant	MCLG	MCL	Level Detected	Sample Date	Violation	Typical Source
Turbidity (NTU)	0	TT = 1 NTU for a single measurement	0.07	2020	No	Soil runoff
		TT = at least 95% of monthly samples ≤0.3 NTU	100%		No	

Radiological Contaminants								
Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Level Detected	Range		Sample Date	Violation	Typical Source
				Low	High			
Alpha Emitters (pCi/L)	0	15	0.250	ND	0.250	2020	No	Erosion of natural deposits
Beta/Photon Emitters (pCi/L)	0	50*	0.310	ND	0.310	2020	No	Erosion of natural deposits

\* EPA considers 50 pCi/L to be the level of concern for beta particles.

## Additional Monitoring

### Secondary Drinking Water Standards

These are recommended limits on compounds that might pose a nuisance to the customer. These compounds affect aesthetic quality (appearance, taste and odor) but do not pose a health risk.

Contaminants	Recommended Limits or Range	Level Detected	Range	
			Low	High
Total Alkalinity (ppm)		54.5	37.9	54.5
Aluminum (ppm)	0.05 to 0.2	< 0.010	< 0.010	< 0.010
Chloride (ppm)	250	29.3	3.16	29.3
Color (Color Units)	15	< 5	< 5	< 5
Corrosiivity (Langelier Index)	-1 to +1	-1.08	-1.06	-1.08
Foaming Agents/MBAS (ppm)	0.5	< 0.05	< 0.05	< 0.05
Hardness (ppm)	50 to 250	344	80	344
Iron (ppm)	0.3	< 0.100	< 0.100	< 0.100
Manganese (ppm)	0.05	< 0.010	< 0.010	< 0.010
Odor (TON)	3	< 1	< 1	< 1
pH	6.5 to 8.5	6.82	6.81	6.82
Sodium (ppm)		21.7	14.1	21.7
Sulfate (ppm)	250	16.2	< 5.00	16.2
Total Dissolved Solids (ppm)	500	202	107	202
Zinc (ppm)	5	0.164	0.011	0.164

## **Additional Information**

The monitoring results, presented in the Detected Contaminants tables, indicate that certain constituents including lead, copper and nitrate have been detected. The following paragraphs provide additional educational information on these contaminants.

NAWC met all requirements under the SDWA Lead and Copper Rule. We sampled water at thirty-two homes in July through September 2019. Regulations state that ninety (90) percent of samples taken must be below the Action Levels of 15 ppb for lead and 1.3 ppm for copper. In our water, the 90<sup>th</sup> percentile level for lead was not detectable, and the 90<sup>th</sup> percentile level for copper was 0.29 ppm. There were no samples taken that exceeded the Action Level for lead. There were no samples taken that exceeded the Action Level for copper.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily leached from materials and components associated with service lines and home plumbing. NAWC 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 or at <http://www.epa.gov/safewater/lead>.

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider.

## **Radon**

NAWC has tested for radon at its groundwater supplies and found elevated levels of this constituent. Radon is a radioactive gas that you cannot see, taste, or smell. It is found throughout the U.S. and occurs naturally in most groundwater. Radon can move up through the ground and into a home through cracks and holes in the foundation and can build up to high levels in all types of homes. Radon can be released from water into the air through showering, bathing, washing dishes, or washing clothes. Radon gas released from tap water is a very small part of the total radon in the air. The inhalation or breathing of radon gas has been linked to lung cancer, although it is unclear how radon in your drinking water contributes to this health effect. If you are concerned about radon in your home, tests are available to determine the total exposure level. For additional information, contact EPA's Radon Hotline at (800) SOS-RADON. EPA does not currently regulate radon in drinking water under the SDWA. However, when an MCL is set for radon, NAWC will take appropriate action to comply with the Radon Rule at their groundwater supplies and comply with Safe Drinking Water Regulations.

## **Vulnerability**

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/Centers for Disease Control (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 at (800) 426-4791 or on-line at [www.epa.gov/safewater](http://www.epa.gov/safewater).

## **PFAS**

We have been sampling and testing for per- and polyfluoroalkyl substances (PFAS) at our sources and at representative locations throughout the distribution system on a quarterly basis. PFAS are man-made chemicals that have been produced and used for decades in connection with non-stick cookware, stain-resistant carpeting and fabrics, food packaging, industrial processes and in fire-fighting foam. PFAS are not regulated, although EPA has set a Health Advisory Limit (HAL) of 70 parts per trillion (ppt) for Perfluorooctanoic Acid (PFOA), for Perfluorooctane Sulfonate (PFOS) and for PFOA and PFOS combined. The HAL was set to be protective of all consumers, including sensitive subpopulations, with

a margin of protection or safety factor. Results indicate an average value of 10.24 ppt at our sources of supply, with sample results ranging from 1.9 ppt to 17 ppt. Results from Wells 14 & 18 were not included because they have not been in service in 2020. Distribution system sample results indicate an average value of 9.20 ppt and a range of ND to 15.5 ppt.

### **Conclusions**

The drinking water we provide to our customers meets and is in compliance with Federal and State requirements. Although certain water quality parameters have been detected, the EPA and DEP have determined that the water is safe. NAWC works around the clock to provide high quality water to all our customers. Please contact us if you have any questions about this report or the public water supply service we provide to you.

### **Contact Information**

We trust this report will help you understand the NAWC water system, the regular monitoring performed to ensure your drinking water is safe, the 2020 water quality results, and related information. If you have any questions about the report, or NAWC and the service you receive, please contact us at our office. Please visit our website at [www.newtownwater.com](http://www.newtownwater.com) for information about NAWC rates and rules, and for direct electronic access of this report visit <http://www.newtownwater.com/consumer-confidence-report>.

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