



# **2023 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 2023 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 no monitoring/reporting violations in 2023.

## **NAWC Water System**

The NAWC water system is supplied by five (5) groundwater sources (primary Wells 4A, 5, 6; reserve Wells 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.

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 2023, we provided service to 16,650 customers in Newtown Borough, Newtown Township and a portion of Middletown Township north and west of Core Creek.

Our 2023 average system demand equaled 2.003 million gallons per day. The well supplies provided 39 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 percent of the total supply in 2023 (BCWSA – 83 percent, PAWC – 17 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

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, 2023. 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 13 you will find Detected Contaminants tables representative of water purchased from BCWSA.
- On pages 14 through 17 you will find Detected Contaminants tables representative of water purchased from the PAWC's Yardley System.

As is shown in the following Detected Contaminants tables, our water system had no water quality violations in 2023.

## **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	0 positive monthly sample	ND	No	Naturally present in the environment

Inorganic Chemicals (IOCs)	Highest Result	Range of Detections	MCL in CCR units	MCLG	Violation	Sources of Contamination
Barium (ppm) (2021)	0.303	ND – 0.303	2	2	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Nitrate (ppm)	3.2	2.62 – 3.2	10	10	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Entry Point Disinfectant Residual – Chlorine <sup>(1)</sup>	Lowest Result	Range of Detections	MinRDL	MRDLG	Violation	Sources of Contamination
Wells 4&5 (ppm)	0.87	0.87 – 2.05	0.75	N/A	No	Water additive used to control microbes.
Well 6 (ppm)	0.90	0.90 – 2.35	0.40	N/A	No	
Wells 14&18 (ppm)	N/A	N/A	0.50	N/A	No	
Lead and Copper	90 <sup>th</sup> Percentile	No. of Sites above AL	Action Level	MCLG	Violation	Sources of Contamination
Lead (ppb) (2022)	ND	0	15	0	No	Corrosion of household plumbing systems; Erosion of natural deposits.
Copper (ppm) (2022)	0.188	0	1.3	1.3	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.

Disinfectants / Disinfection Byproducts (NAWC)	Highest Result	Range of Detections	MCL or MRDL	MCLG or MRDLG	Violation	Sources of Contamination
Distribution Chlorine Residual (ppm)	1.32 <sup>(2)</sup>	0.21 – 3.8 <sup>(4)</sup>	4	4	No	Water additive used to control microbes.
Haloacetic Acids (ppb)	25 <sup>(3)</sup>	10.6 – 25.4 <sup>(4)</sup>	60	N/A	No	Byproduct of drinking water disinfection.
Total Trihalomethanes (ppb)	38 <sup>(3)</sup>	10.5 – 40.9 <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) (2020)	6.2	2.3 – 6.2	15	0	No	Erosion of natural deposits.
Combined Uranium (ppb)	3.886	3.149 – 3.886	30	0	No	Erosion of natural deposits.
Radium – 226 & 228 (ppm)	1.127	0 – 0.8	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.

Chemical Contaminants								
Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Level Detected	Range		Sample Date	Violation	Typical Source
				Low	High			
Barium (ppm)	2	2	0.016	0.015	0.016	2023	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chlorine (ppm)	4	4	1.12	0.62	1.12	2023	No	Water additive used to control microbes
Chromium (ppb)	100	100	1.4	ND	1.4	2023	No	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride (ppm)	2	2	0.59	ND	0.82	2023	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nickel (ppb)	NA	NA	2.2	ND	2.2	2023	No	Erosion of natural deposits
Nitrate (ppm)	10	10	0.533	ND	0.781	2023	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	52.5	12.0	66.4	2023	No	By-product of drinking water disinfection
Total Trihalomethanes (TTHMs) (ppb)	NA	80	50.5	11.2	87.9	2023	No	By-product of drinking water disinfection
Bromate (ppb)	0	10	2.0	1.1	2.8	2022	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	2022	0 out of 31	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper – AL at consumer taps (ppm)	1.3	1.3	0.101	2022	0 out of 31	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	2023	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 & 2023	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.

Microbial (Related to Assessments/Corrective Actions Regarding <i>E. Coli</i> Positive Results)					
Contaminant	MCLG	MCL	Assessments/ Corrective Actions	Violation	Sources of Contamination
<i>E. coli</i>	0	Routine and repeat samples are total coliform-positive and either is <i>E. coli</i> -positive or system fails to take repeat samples following <i>E. coli</i> -positive routine sample or system fails to analyze total coliform-positive repeat sample for <i>E. coli</i>	See detailed description under “Detected Contaminants Health Effects Language and Corrective Actions” section below	Yes	Human and animal fecal waste

### Detected Contaminants Health Effects Language and Corrective Actions

About the *E. coli* bacteria detection: During the past year, we were required to conduct a Level 2 Assessment because we failed to take all required repeat samples following an *E.coli*-positive routine sample. *E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term health effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems. We violated the standard for *E. coli* indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct a detailed assessment to identify problems and to correct any problems that were found during these assessments. No corrective actions were required due to the assessment.



### Fourth Unregulated Contaminant Monitoring Rule (UCMR4)

EPA uses the UCMR program to collect nationally representative data for contaminants suspected to be present in drinking water. These contaminants do not have regulatory standards. BCWSA was required to perform testing under UCMR4 in the Main Lower South Water System for 30 additional contaminants. Results of this testing can be found in the tables on this page.

Entry Point Testing				
Contaminants	Level Detected	Range		Sample Date
		Low	High	
1-Butanol (ppb)	ND	ND	ND	2019
2-Methoxyethanol (ppb)	ND	ND	ND	2019
2-Propen-1-ol (ppb)	ND	ND	ND	2019
Germanium (ppb)	ND	ND	ND	2019
Manganese (ppb)	3.51	1.86	5.68	2019
a-Hexachlorocyclohexane (ppb)	ND	ND	ND	2019
Butylated hydroxyanisole (ppb)	ND	ND	ND	2019
Chlorpyrifos (ppb)	ND	ND	ND	2019
Dimethipin (ppb)	ND	ND	ND	2019
Ethoprop (ppb)	ND	ND	ND	2019
o-Toluidine (ppb)	ND	ND	ND	2019
Oxyfluorfen (ppb)	ND	ND	ND	2019
Profenofos (ppb)	ND	ND	ND	2019
Quinoline (ppb)	ND	ND	ND	2019
Tebuconazole (ppb)	ND	ND	ND	2019
Total Permethrin (ppb)	ND	ND	ND	2019
Tribufos (ppb)	ND	ND	ND	2019
Anatoxin-a (ppb)	ND	ND	ND	2018
Cylindrospermopsin (ppb)	ND	ND	ND	2018
Total Microcystins & Nodularins (ppb)	ND	ND	ND	2018

Distribution Testing				
Contaminants	Level Detected	Range		Sample Date
		Low	High	
Bromoacetic acid (ppb)	0.086	ND	0.342	2019
Bromochloroacetic acid (ppb)	2.67	0.403	3.75	2019
Bromodichloroacetic acid (ppb)	5.65	1.17	9.99	2019
Chloroacetic acid (ppb)	0.653	ND	2.61	2019
Chlorodibromoacetic acid (ppb)	0.829	ND	1.09	2019
Dibromoacetic acid (ppb)	0.335	ND	0.676	2019
Dichloroacetic acid (ppb)	15.2	2.98	22.8	2019
Tribromoacetic acid (ppb)	ND	ND	ND	2019
Trichloroacetic acid (ppb)	25.6	2.30	37.5	2019

## 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)		55.8	53.3	55.8
Aluminum (ppm)	0.05 to 0.2	< 0.010	< 0.010	< 0.010
Chloride (ppm)	250	63.4	34.4	63.4
Color (Color Units)	15	< 5	< 5	< 5
Corrosiivity (Langelier Index)	-1 to +1	-0.89	-0.55	-0.89
Foaming Agents/MBAS (ppm)	0.5	< 0.05	< 0.05	< 0.05
Hardness (ppm)	50 to 250	112	69.0	112
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	7.18	6.70	7.18
Sodium (ppm)		22.0	20.9	22.0
Sulfate (ppm)	250	17.1	14.2	17.1
Total Dissolved Solids (ppm)	500	229	124	229
Zinc (ppm)	5	0.039	< 0.010	0.039

### Per- and Polyfluoroalkyl Substances (PFAS)

PFAS are a group of man-made chemicals used in many consumer products, including food wrappers, fabrics, and carpets, to make them resistant to water, oil, grease, stains, and heat. Certain types of firefighting foam may contain PFAS. On January 14, 2023, PA DEP published the PFAS MCL Rule. This rule set a maximum contaminant level (MCL) for two PFAS: perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), two of the more common and persistent PFAS chemicals. The MCL for PFOA was set at 14 parts per trillion (ppt) and the MCL for PFOS was set at 18 ppt. The required monitoring is set to begin in 2024, but because of concerns about PFAS contamination in the region, BCWSA tested each of its entry points for PFAS in 2023. Results from that testing are in the table below. Additional information can be found on PA DEP’s website at [www.dep.pa.gov/Citizens/My-Water/drinking\\_water/PFAS](http://www.dep.pa.gov/Citizens/My-Water/drinking_water/PFAS).

Entry Point	PFOS (ppt)	PFOA (ppt)	PFBS (ppt)	PFHpA (ppt)	PFHxS (ppt)	PFHxA (ppt)
EP102	3.05	3.36	2.05	ND	ND	2.74
EP103	ND	ND	ND	ND	ND	ND
EP105	3.32	3.69	2.22	ND	1.62	3.36

The following PFAS were not detected in the sample: HFPO-DA, NEtFOSAA, NMeFOSAA, PFDA, PFDoA, PFTA, PFNA, PFTTrDA, PFUnA, 11CI-PF3OUdS, 9CI-PF3ONS, ADONA.

## 2023 CCR Numbers

Results reflect data for the BCWSA Main Lower South System - PWSID# 1090079

Contaminant	BCWSA Results				NWWA Results				LBCJMA Results				BCWSA CCR Reported Number			
	Result	Range		Sample Date	Result	Range		Sample Date	Result	Range		Sample Date	Result	Range		Sample Date
		Low	High			Low	High			Low	High			Low	High	
<b>Disinfectants and Disinfection By-Products</b>																
Chlorine Residual (mg/L)	1.12	0.62	1.12	2023	1.63	1.27	1.88	2023		2.2	4.4	2023	1.12	0.62	1.12	2023
Total Trihalomethanes (ppb)	50.5	11.2	87.9	2023	21.80	13.70	29.30	2023	37.6	11.1	81.1	2023	50.5	11.2	87.9	2023
Haloacetic Acids (ppb)	52.5	12.0	66.4	2023	16.30	14.10	17.90	2023	37.6	14.8	69.5	2023	52.5	12	66.4	2023
Bromate (ppb)					2.3	1.5	4.0	2023					2.3	1.5	4	2023
<b>Inorganic Contaminants</b>																
Antimony (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Arsenic (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Asbestos (MFL)	ND	NA	NA	2023	0	NA	NA	2021					ND	NA	NA	2023
Barium (ppm)					0.015	NA	NA	2023	0.016			2023	0.016	0.015	0.016	2023
Beryllium (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Cadmium (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Chromium (ppb)					0	NA	NA	2023	1.4			2023	1.4	ND	1.4	2023
Cyanide (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Fluoride (ppb)					0	NA	NA	2023	0.59	0.19	0.82	2023	0.59	ND	0.82	2023
Mercury, inorganic (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Nickel (ppb)					0	NA	NA	2023	2.2			2023	2.2	ND	2.2	2023
Nitrate as Nitrogen (ppm)					0.533	0.340	0.781	2023					0.533	ND	0.781	2023
Nitrite as Nitrogen (ppm)					0	NA	NA	2023					ND	NA	NA	2023
Selenium (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Thallium (ppb)					0	NA	NA	2023					ND	NA	NA	2023
<b>Synthetic Organic Contaminants</b>																
1,2-Dibromo-3-chloropropane (ppb)					0	NA	NA	2023					ND	NA	NA	2023
2,4-D (ppb)					0	NA	NA	2023					ND	NA	NA	2023
2,4,5-TP (Silvex) (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Alachlor (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Atrazine (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Benzo(a)pyrene (ng/L)					0	NA	NA	2023					ND	NA	NA	2023
Carbofuran (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Chlordane (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Dalapon (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Dicamba (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Di(2-ethylhexyl)adipate (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Di(2-ethylhexyl)phthalate (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Dinoseb (ppm)					0	NA	NA	2023					ND	NA	NA	2023
Dioxin [2,3,7,8-TCDD] (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Diquat (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Endothall (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Endrin (ppm)					0	NA	NA	2023					ND	NA	NA	2023
Ethylene dibromide (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Glyphosphate (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Heptachlor (ng/L)					0	NA	NA	2023					ND	NA	NA	2023
Heptachlor epoxide (ng/L)					0	NA	NA	2023					ND	NA	NA	2023
Hexachlorobenzene (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Hexachlorocyclopentadiene (ppb)					0	NA	NA	2023					ND	NA	NA	2023
Lindane (ng/L)					0	NA	NA	2023					ND	NA	NA	2023
Methoxychlor (ppb)					0	NA	NA	2023					ND	NA	NA	2023

Oxamyl [Vidate] (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
Pentachlorophenol (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
Picloram (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
Polychlorinated Biphenyls (PCBs) (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
Simazine (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
Toxaphene (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
<b>Volatile Organic Contaminants</b>											
Benzene (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
Carbon tetrachloride (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
Chlorobenzene (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
o-Dichlorobenzene (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
p-Dichlorobenzene (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
1,2-Dichloroethane (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
1,1-Dichloroethylene (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
cis-1,2-Dichloroethylene (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
trans-1,2-Dichloroethylene (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
Dichloromethane (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
1,2-Dichloropropane (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
1,2-Dichlorobenzene (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
1,4-Dichlorobenzene (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
Ethylbenzene (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
Methyltertiarybutylether (MTBE) (ppb)	0			2023			ND			2023	
Methyl chloride (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
Styrene (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
Tetrachloroethylene (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
1,2,4-Trichlorobenzene (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
1,1,1-Trichloroethane (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
1,1,2-Trichloroethane (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
Trichloroethylene (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
Toluene (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
Vinyl chloride (ppb)	0	NA	NA	2023			ND	NA	NA	2023	
Total Xylenes (ppm)	0	NA	NA	2023			ND	NA	NA	2023	
<b>Radioactive Contaminants</b>											
Alpha Emitters (pCi/L)	0	0	0	2023	0.250		2020	0.250	ND	0.250	2020 & 2023
Uranium (µg/L)	0	0	0	2023				ND	ND	ND	2023
Combined Radium (pCi/L)	0	0	0	2023				ND	ND	ND	2023
Beta/Photon Emitters (pCi/L)					0.310		2020	0.310	ND	0.310	2020

Contaminant	BCWSA			NWWA			LBCJMA			BCWSA CCR Reported Number		
	90th Percent Value	# of Sites Above AL	Sample Date	90th Percent Value	# of Sites Above AL	Sample Date	90th Percent Value	# of Sites Above AL	Sample Date	90th Percent Value	# of Sites Above AL	Sample Date
<b>Lead and Copper</b>												
Copper (ppm)	0.101	0 out of 31	2022	0.242	0 out of 35	2022	0.19		2022	0.101	0 out of 31	2022
Lead (ppb)	ND	0 out of 31	2022	3.0	0 out of 35	2022				ND	0 out of 31	2022

Contaminant	BCWSA				NWWA				LBCJMA				BCWSA CCR Reported Number			
	Result	Range		Sample Date	Result	Range		Sample Date	Result	Range		Sample Date	Result	Range		Sample Date
		Low	High			Low	High			Low	High			Low	High	
<b>Microbiological Contaminants</b>																
Total Coliform Bacteria				0	NA	NA	2023									
Fecal Coliform Bacteria	1		2023	0	NA	NA	2023									SEE CCR

Contaminant	BCWSA			NWWA			LBCJMA			BCWSA CCR Reported Number		
	Result	Range		Sample Date	Result	Range		Sample Date	Result	Range		Sample Date

Contaminant	Result	BCWSA		Sample Date	Result	NWWA		Sample Date	Result	LBCJMA		Sample Date	Result	BCWSA CCR Reported Number		Sample Date
		Low	High			Low	High			Low	High			Low	High	
<b>Turbidity</b>																
TT=1NTU for a single measurement					0.04	0.03	0.07	2023	0.07			2023	0.07	0.03	0.07	2023
TT=at least 95% of samples ≤0.3 NTU					100%			2023	100%			2023	100%			2023

Contaminant	BCWSA			NWWA			LBCJMA			BCWSA CCR Reported Number		
	Highest Level Detected	# of Samples Containing Contaminant	Sample Date	Highest Level Detected	# of Samples Containing Contaminant	Sample Date	Highest Level Detected	# of Samples Containing Contaminant	Sample Date	Highest Level Detected	# of Samples Containing Contaminant	Sample Date
Cryptosporidium (oocysts/L)					2 out of 4	2022						
Giardia (oocysts/L)					1 out of 4	2022						

Contaminant	Result	BCWSA			Sample Date	Result	NWWA			Sample Date	Result	LBCJMA			Sample Date	Result	BCWSA CCR Reported Number			Sample Date
		Range		Sample Date			Range		Sample Date			Range		Sample Date			Range		Sample Date	
		Low	High				Low	High				Low	High				Low	High		
<b>Secondaries</b>																				
Total Alkalinity (ppm)	55.8	53.3	55.8	2023					42	22	66	2023	55.8	53.3	55.8	2023				
Aluminum (ppm)	<0.010	<0.010	<0.010	2023									<0.010	<0.010	<0.010	2023				
Chloride (ppm)	63.4	34.4	63.4	2023									63.4	34.4	63.4	2023				
Color (Color Units)	<5	<5	<5	2023									<5	<5	<5	2023				
Corrosivity (Langelier Index)	-0.89	-0.55	-0.89	2023									-0.89	-0.55	-0.89	2023				
Foaming Agents (MBAS) (ppm)	<0.05	<0.05	<0.05	2023									<0.05	<0.05	<0.05	2023				
Hardness (ppm)	112	69.0	112	2023									112	69.0	112	2023				
Iron (ppm)	<0.100	<0.100	<0.100	2023									<0.100	<0.100	<0.100	2023				
Manganese (ppm)	<0.010	<0.010	<0.010	2023									<0.010	<0.010	<0.010	2023				
Odor (TON)	<1	<1	<1	2023									<1	<1	<1	2023				
pH	7.18	6.70	7.18	2023									7.18	6.70	7.18	2023				
Sodium (ppm)	22.0	20.9	22.0	2023									22.0	20.9	22.0	2023				
Sulfate (ppm)	17.1	14.2	17.1	2023									17.1	14.2	17.1	2023				
Total Dissolved Solids (ppm)	229	124	229	2023									229	124	229	2023				
Zinc (ppm)	0.039	<0.010	0.039	2023									0.039	<0.010	0.039	2023				

Contaminant	Result	BCWSA			Sample Date	Result	NWWA			Sample Date	Result	LBCJMA			Sample Date	Result	BCWSA CCR Reported Number			Sample Date
		Range		Sample Date			Range		Sample Date			Range		Sample Date			Range		Sample Date	
		Low	High				Low	High				Low	High				Low	High		
<b>Perfluorinated Compounds</b>																				
Perfluorobutanesulfonic Acid (PFBS) (ppt)	2.22	ND	2.22	2023																
Perfluoroheptanoic Acid (PFHpA) (ppt)	ND	ND	ND	2023																
Perfluorohexanesulfonic Acid (PFHxS) (ppt)	1.62	ND	1.62	2023																
(PFHxA) (ppt)	3.36	ND	3.36	2023																
Perfluorononanoic Acid (PFNA) (ppt)	ND	ND	ND	2023																
Perfluorooctanesulfonic Acid (PFOS) (ppt)	3.32	ND	3.32	2023	1.1	0	2.8	2023												
Perfluorooctanoic Acid (PFOA) (ppt)	3.36	ND	3.36	2023	2.2	0	4.1	2023												

SEE CCR FOR RESULTS LISTED BY EP

# Water Quality Results

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 2023, 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” 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.

**PAW** – Pennsylvania American Water Yardley

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

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)	2022	Yes	0	15	1	30	1	Corrosion of household plumbing systems.
Copper (ppm)	2022	Yes	1.3	1.3	0.14	30	0	Corrosion of household plumbing systems.

REVISED TOTAL COLIFORM RULE - At least 15 samples collected each month in the distribution system						
Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Highest No. of Samples	Typical Source
Total Coliform <sup>1</sup>	2023	Yes	0	TT = No more than 2 positive monthly samples	2	Naturally present in the environment.
E. Coli <sup>2</sup>	2023	Yes	0	MCL = 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.

1 – The Treatment Technique for Total Coliforms requires that if the number of total coliform positive samples exceeds 2, a system assessment must be conducted, any sanitary defects identified, and corrective actions completed. Additional Level 1 Assessments or Level 2 Assessments are required depending on the circumstances.

2 – The Treatment Technique for E. Coli requires that for any total coliform positive routine sample with one or more total coliform positive check samples and an E. coli positive result for any of the samples a Level 2 Assessment must be conducted, any sanitary defects identified, and corrective actions completed. The E. Coli MCL is exceeded if routine and repeat samples are total coliform-positive and either is E. coli-positive, or the system fails to take repeat samples following an E. coli-positive routine sample, or the system fails to analyze total coliform-positive repeat samples for E. coli..

**DISINFECTION BYPRODUCTS - Collected in the Distribution System**

Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Highest LRAA	Range Detected	Typical Source
<b>Total Trihalomethanes (TTHMs) (ppb)</b>	2022 - 2023	Yes	NA	80	37.3	13.9 - 59	By-product of drinking water disinfection.
<b>Haloacetic Acids (HAAs) (ppb)</b>	2022 - 2023	Yes	NA	60	27.9	14.8 - 34.6	By-product of drinking water disinfection.

NOTE: Compliance is based on the running annual average at each location (LRAA). The Highest LRAA reflects the highest average at any location and the Range Detected reflects all samples used to calculate the running annual averages.

**DISINFECTANTS - Collected in the Distribution System and at the Treatment Plant**

Substance (with units)	Entry Point	Year Sampled	Compliance Achieved	MRDLG	MRDL	Minimum Chlorine Residual	Compliance Result	Range Detected	Typical Source
<b>Entry Point Chlorine Residual (ppm)<sup>1</sup></b>	Entry Point 101 - Yardley WTP	2023	Yes	4	4	0.20	0.53	0.53 - 2.94	Water additive used to control microbes.
<b>Entry Point Chlorine Residual (ppm)<sup>1</sup></b>	Entry Point 104 - Highland Drive	2023	Yes	4	4	0.40	0.27	0.27 - 3.37	Water additive used to control microbes.
<b>Entry Point Chlorine Residual (ppm)<sup>1</sup></b>	Entry Point 107 - College Avenue	2023	Yes	4	4	0.40	0.80	0.80 - 2.45	Water additive used to control microbes.
<b>Distribution System Chlorine Residual (ppm)<sup>2</sup></b>	Distribution	2023	Yes	4	4	0.20	1.81	0.90 - 1.81	Water additive used to control microbes.

1 - Data represents the lowest residual entering the distribution system from our water treatment plant.

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

**TREATMENT BYPRODUCTS PRECURSOR REMOVAL - Collected at the 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)	2023	Yes	NA	TT	35% to 45%	51.9% to 59.9%	0	Naturally present in the environment.

**TURBIDITY - Continuous Monitoring at the 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)	2023	Yes	0	TT: Single result >1 NTU	0.08	3/05/23	Soil runoff.
	2023	Yes	NA	TT: At least 95% of samples $\leq$ 0.3 NTU	100%	NA	Soil runoff.

**OTHER SUBSTANCES OF INTEREST - Collected at the Treatment Plant**

Substance (with units)	Year Sampled	Average	Comments
pH	2023	7.49	pH is a measure of the acid/base properties of water.
Total Hardness (ppm)	2023	56 (3.27 grains per gallon)	Naturally occurring.
Iron (ppm) <sup>1</sup>	2023	0.01	Corrosion of pipes; leaching of iron salts from soil and rocks, and industrial pollution. Essential dietary trace nutrient.
Manganese (ppm) <sup>1</sup>	2023	0.011	Naturally-occurring elemental metal; largely used in aluminum alloy production. Essential dietary trace nutrient.
Phosphate (as PO <sub>4</sub> ) (ppm)	2023	1.15	Chemical added to water to reduce corrosion tendencies of water as it travels from the treatment plant to our customer's homes.
Zinc (ppm)	2023	0.40	Naturally-occurring by erosion of minerals from rocks and soil.

1 – Substances with Secondary MCLs do not have MCLGs; these limits are primarily established to address aesthetic concerns.



**OTHER REGULATED SUBSTANCES - Collected at the Treatment Plant**

Substance (with units)	Entry Point	Year Sampled	Compliance Achieved	MCLG	MCL/SMCL	Highest Compliance Result	Range Detected	Typical Source
Barium (ppm)	Entry Point 104 – Highland Drive	2021	Yes	2	2	0.5	0.5	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Barium (ppm)	Entry Point 107 – College Avenue	2021	Yes	2	2	0.1	0.1	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Nitrate (ppm)	Entry Point 101 – Yardley WTP	2023	Yes	10	10	3.41	0.67 to 3.41	Runoff from fertilizer use; industrial or domestic wastewater discharges; erosion of natural deposits.
Sodium <sup>1</sup> (ppm)	Entry Point 101 – Yardley WTP	2021 – 2023	NA	NA	NA	39.1	21.5 to 39.1	Erosion from naturally occurring deposits. Used in water softener regeneration.
Uranium (pCi/L)	Entry Point 104 – Highland Drive	2023	Yes	0	20	1.31	1.31	Erosion from naturally occurring deposits.
Uranium (pCi/L)	Entry Point 107 – College Avenue	2023	Yes	0	20	2.53	2.53	Erosion from naturally occurring deposits.
Gross Alpha (pCi/L)	Entry Point 104 – Highland Drive	2020	Yes	0	15	3.1	3.1	Erosion of natural deposits
Gross Alpha (pCi/L)	Entry Point 107 – College Avenue	2020	Yes	0	15	4	4	Erosion of natural deposits

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 may be of concern to individuals on a sodium restricted diet.

## **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**

PFAS are a group of man-made chemicals used in many consumer products, including food wrappers, fabrics, and carpets, to make them resistant to water, oil, grease, stains, and heat. Certain types of firefighting foam may contain PFAS. On January 14, 2023, PA DEP published the PFAS MCL Rule. This rule set a maximum contaminant level (MCL) for two PFAS: perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), two of the more common and

persistent PFAS chemicals. The MCL for PFOA was set at 14 parts per trillion (ppt) and the MCL for PFOS was set at 18 ppt. The required monitoring is set to begin in 2024. NAWC will report on PFAS sampling results in the 2024 CCR.

### **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 2023 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>.

Newtown Artesian Water Company  
P.O. Box 217  
201 N. Lincoln Avenue  
Newtown, PA 18940-0217  
(215) 968-6781 or 6782  
(215) 968-8966 (FAX)

Dan Angove  
General Manager  
dan.angove@newtownwater.com