

# QUARRYVILLE BOROUGH AUTHORITY

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## 2022 ANNUAL DRINKING WATER QUALITY REPORT

PWSID #: **7360112**

NAME: **QUARRYVILLE BOROUGH AUTHORITY**

THIS REPORT CAN BE ACCESSED AT [www.quarryvilleborough.com](http://www.quarryvilleborough.com)

*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. Have someone translate it for you or speak with someone who understands it.)*

### **WATER SYSTEM INFORMATION:**

This report shows our water quality and what it means. If you have any questions about this report or concerning your water utility, please contact William S. Lamparter, Authority Manager at 717-786-2404.

We want you to be informed about your water supply. If you want to learn more, please attend any of our regularly scheduled meetings. They are held the third Tuesday of each month at 7:00 PM at 300 Saint Catherine Street, Quarryville, PA.

### **SOURCE(S) OF WATER:**

Our water sources are: A municipal well located on North Church Street in the Borough and an interconnection with PA American Water Company on East State Street.

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A Source Water Assessment of our sources was completed by the PA Department of Environmental Protection (PA DEP). The Assessment has found that our sources are potentially most susceptible to road deicing materials, accidental spills along roads and leaks in underground storage tanks. Overall, our sources have high risk of significant contamination. A summary report of the Assessment is available on the Source Water Assessment Summary Reports eLibrary web page: <http://www.elibrary.dep.state.pa.us/dsweb/View/Collection-10045>. Complete reports were distributed to municipalities, water supplier, local planning agencies and PA DEP offices. Copies of the complete report are available for review at the PA DEP Reading District Office, at (610) 916-0100.

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/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 (800-426-4791).

## MONITORING YOUR WATER:

We routinely monitor for contaminants in your drinking water according to federal and state laws. We are pleased to report that during calendar year 2022, the results for your drinking water complied with all Federal and State drinking water requirements. The following tables show the results of our monitoring for the period of January 1 to December 31, 2022. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data is from prior years in accordance with the Safe Drinking Water Act. The date has been noted on the sampling results table.

### **DEFINITIONS:**

**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 addition of a disinfectant is necessary for control of microbial contaminants.

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

**Minimum Residual Disinfectant Level (MinRDL)** - The minimum level of residual disinfectant required at the entry point to the distribution system.

**Level 1 Assessment** – A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

**Level 2 Assessment** – A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

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

**Mrem/year** = millirems per year (a measure of radiation absorbed by the body)

**pCi/L** = picocuries per liter (a measure of radioactivity)

**ppb** = parts per billion, or micrograms per liter (µg/L)

**ppm** = parts per million, or milligrams per liter (mg/L)

**ppq** = parts per quadrillion, or picograms per liter

**ppt** = parts per trillion, or nanograms per liter

**DETECTED SAMPLE RESULTS:**

<i>Chemical Contaminants</i>								
Contaminant	MCL in CCR Units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Haloacetic Acid	60.0	N/A	3.6	0.00 – 18.4	ppb	2022	No	By-product of chlorination
Trihalomethanes	80.0	N/A	17.4	0.00 – 73.6	ppb	2022	No	By-product of chlorination
Nitrate as Nitrogen	10.0	10.0	6.47	6.22-6.47	ppm	2022	No	Run-off from fertilizer, leaching from septic tanks, sewage, erosion of natural deposits
Chlorine	MRDL =4	MRDLG =4	1.07	0.58 – 1.07	ppm	2022	No	Water additive used to control microbes
Cis-1,2-Dichloroethylene	70	70	1.375	1.2 – 1.7	ppb	2022	No	Discharge from industrial chemical factories
Barium	2	2	0.056	0.056	ppm	2021	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	100	100	1	1	ppb	2021	No	Discharge from steel and pulp mills; erosion of natural deposits
Tetrachloroethylene	5	0	.225	0 – 0.50	ppb	2022	No	Discharge from factories and dry cleaners
Trichloroethylene	5	0	0.75	.06 – 0.9	ppb	2022	No	Discharge from metal degreasing sites and other factories

<i>Entry Point Disinfectant Residual</i>							
Contaminant	Minimum Disinfectant Residual	Lowest Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Chlorine	0.40	1.07	1.07 – 1.44	ppm	9/16/2022	No	Water additive used to control microbes.

<i>Lead and Copper</i>							
Contaminant	Action Level (AL)	MCLG	90 <sup>th</sup> Percentile Value	Units	# of Sites Above AL of Total Sites	Violation Y/N	Sources of Contamination
<b>Lead</b>	<b>15</b>	<b>0</b>	<b>9.0</b>	<b>ppb</b>	<b>0 of 10</b>	<b>No</b>	<b>Corrosion of household plumbing.</b>
<b>Copper</b>	<b>1.3</b>	<b>1.3</b>	<b>0.287</b>	<b>ppm</b>	<b>0 of 10</b>	<b>No</b>	<b>Corrosion of household plumbing.</b>

### ***EDUCATIONAL INFORMATION:***

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. 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 stormwater run-off, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are 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.

**In order to ensure that tap water is safe to drink, EPA and DEP prescribes regulations which limit the amounts of certain contaminants in water provided by public water systems. FDA and DEP 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 contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's *Safe Drinking Water Hotline* (800-426-4791).

### ***Information about Lead***

**If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Quarryville Borough Authority 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>.

#### Educational Statement for Nitrate

**Nitrate:** 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 for advice from your health care provider.

#### **OTHER INFORMATION:**

#### **PENNSYLVANIA AMERICAN WATER COMPANY INFORMATION**

Pennsylvania American Water Company  
Coatesville System  
800 West Hershey Park Drive  
Hershey, PA 17033 1-800-565-7292

#### **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 2022, 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 page 2. 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.

#### **Water Quality Results**

**LEAD AND COPPER MONITORING PROGRAM** – At least 30 tap water samples collected at customers' taps every three (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	0	Corrosion of household plumbing systems
Copper (ppm)	2022	Yes	1.3	1.3	0.074	30	1	Corrosion of household plumbing systems

**REVISED TOTAL COLIFORM RULE** – At least 40 samples collected each month in the distribution system

Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Highest No. of Positive Samples	Typical Source
Total Coliform <sup>1</sup>	2022	Yes	0	TT = No more than 1 positive monthly sample	3	Naturally present in the environment
E. Coli <sup>2</sup>	2022	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 are exceeded, 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.

During the past year, we were required to conduct one (1) Level 1 Assessment. The assessment was completed, and no sanitary defects were identified.

**DISINFECTION BYPRODUCTS** - Collected in the distribution system

Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Highest LRAA	Range Detected	Typical Source
Total Trihalomethanes (TTHMs) (ppb)	2021-2022	Yes	NA	80	33.2	31.3 to 38.2	By-product of drinking water disinfection
Haloacetic Acids (HAAs) (ppb)	2021-2022	Yes	NA	60	35.0	30.7 to 40.6	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 average.

### DISINFECTANTS – Collected in the Distribution System and at the Treatment Plant

Substance (with units)	Year Sampled	Compliance Achieved	MRDLG	MRDL	Minimum Chlorine Residual Required	Compliance Result	Range Detected	Typical Source
Entry Point Chlorine Residual (ppm) <sup>1</sup>	2022	Yes	4	4	0.20	0.40	0.40 to 3.44	Water additive used to control microbes
Distribution System Chlorine Residual (ppm) <sup>2</sup>	2022	Yes	4	4	0.20	2.18	1.35 to 2.18	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)	2022	Yes	NA	TT	35% - 45%	37.5 - 50.6	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 ≤0.3 NTU	Sample Date of Highest and Lowest Compliance Result	Typical Source
Turbidity (NTU)	2022	Yes	0	TT: Single Result >1 NTU	0.07	7/13/22	Soil Runoff
Turbidity (NTU)	2022	Yes	NA	TT: At least 95% of samples ≤0.3 NTU	100%	NA	Soil Runoff

### OTHER REGULATED SUBSTANCES – Collected at the Treatment Plant

Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL/SMCL	Highest Compliance Result	Range Detected	Typical Source
Nitrate (ppm)	2022	Yes	10	10	2.47	Single Sample	Runoff from fertilizer use, industrial or domestic wastewater discharge; erosion of natural deposits
Fluoride (ppm)	2022	Yes	2	2	0.58		Erosion of natural deposits; Water additive which promotes strong teeth;

						Single Sample	Discharge from fertilizer and aluminum factories
Sodium <sup>1</sup>	2022	NA	NA	NA	34.8	Single Sample	Sodium is a natural constituent of raw water, but its concentration can be increased by pollution sources such as rock salt treatment, runoff and detergents
Iron <sup>2</sup>	2022	NA	NA	0.3	0.03	ND to 0.03	Corrosion of pipes; leaching of iron salts from soil and rocks, and industrial pollution. Essential dietary trace unit
Manganese <sup>2</sup>	2022	NA	NA	0.05	0.22	ND to 0.22	Naturally occurring elemental metal; largely used in aluminum alloy production. Essential dietary trace unit

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.

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

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

Substance (with units)	Year Sampled	Range Detected	Comments
pH	2022	7.2 to 8.1	pH is a measure of the acid/base properties of water.
Total Hardness (as CaCO <sub>3</sub> )	2022	52 to 102	Naturally occurring
Phosphates (ppm)	2022	ND to 2.4	Chemical added to water to reduce corrosion tendencies of the water as it travels from the treatment plant to our customer's homes.

#### 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.

#### ADDITIONAL WATER QUALITY PARAMETERS OF INTEREST- Water Leaving the Treatment Facility

Parameter	Units	Year	Average Result	Range Detected	Typical Source
Bromochloroacetic Acid	ppb	2019-2020	2.8	1.3 to 3.84	By-product of drinking water disinfection
Bromodichloroacetic Acid	ppb	2019-2020	2.3	1.2 to 3.6	By-product of drinking water disinfection
Chlorodibromoacetic Acid	ppb	2019-2020	0.4	ND to 0.8	By-product of drinking water disinfection



Dibromoacetic Acid	ppb	2019-2020	0.2	ND to 0.5	By-product of drinking water disinfection
Dichloroacetic Acid	ppb	2019-2020	10.2	4.2 to 17	By-product of drinking water disinfection
Monobromoacetic Acid	ppb	2019-2020	0.02	ND to 0.3	By-product of drinking water disinfection
Monochloroacetic Acid	ppb	2019-2020	0.2	ND to 3.5	By-product of drinking water disinfection
Total Haloacetic Acids	ppb	2019-2020	24.9	16 to 41	By-product of drinking water disinfection
Total Haloacetic Acids-Br	ppb	2019-2020	15.4	3.8 to 41	By-product of drinking water disinfection
Trichloroacetic Acid	ppb	2019-2020	8.6	5.5 to 14	By-product of drinking water disinfection
Manganese*	ppb	2019-2020	3.3	0.5 to 5	Naturally occurring elemental metal; largely used in aluminum alloy production. Essential dietary element.

\*Manganese has a Secondary MCL of 50 ppb.