2020

ANNUAL WATER QUALITY REPORT

SOLEBURY SYSTEM

Public Water Supply ID# 1090129

This report reflects water quality testing conducted during 2020.

Industrial and commercial customers, should forward this report to their Environmental Compliance Manager.

BCWSA PROVEN™

BCWSA IS COMMITTED TO PROVIDING CUSTOMERS WITH A RELIABLE SUPPLY OF HIGH QUALITY DRINKING WATER THAT MEETS OR SURPASSES STATE AND FEDERAL STANDARDS FOR QUALITY AND SAFETY.

Our water is tested using certified labs that use advanced procedures. We are pleased to share with you this annual report on the quality of your drinking water as required by the Safe Drinking Water Act (SDWA).

BCWSA PROVEN™

This report compiles water quality data based on standards set by the Environmental Protection Agency (EPA) and the Pennsylvania Department of Environmental Protection (PA DEP). Please share this information with other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

Please take time to review this report. We hope it helps answer questions you may have about the quality of your drinking water, and helps you better understand the care and commitment that goes into providing the highest quality service possible every single day.

Question Box

Have questions or need additional information?
If you have questions regarding this report, please contact:
Erin Rapp
215-343-2538 x112
r.erin@bcwsa.net
www.bcwsa.net

For more information about your local drinking water quality, standards, source water protection and other questions, please call:

EPA Safe Drinking Water Hotline 800-426-4791

If you'd like to receive a printed copy of this report, please contact our office.

1275 Almshouse Road
Warrington, PA 18976
215-343-2538 or 800-222-2068
customerservice@bcwsa.net

This report contains important information about your drinking water.
Have someone translate it for you, or speak with someone who understands it.

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

Ce rapport contient des informations importantes à propos de votre eau potable. Demander à quelqu'un de traduire ces informations pour vous ou discuter avec une personne qui comprend ces informations.

Następujący raport zawiera ważną informację na temat wody pitnej. Proszę poprosić kogoś o przetłumaczenie lub porozmawiać z kimś kto rozumie.

Αυτή η αναφορά περιλαμβάνει σημαντικές πληροφορίες σχετικά με το πόσιμο νερό σας. Ζητήστε από κάποιον να σας τη μεταφράσει, ή μιλείστε με κάποιον που την καταλαβαίνει.

В этом сообщении содержится важная информация о воде, которую вы пьёте. Попросите кого-нибудь перевести для вас это сообщение или поговорите с человеком, который понимает его содержание.

Це повідомлення містить важливу інформацію про воду, яку ви п'єте. Попросіть кого-небудь перекласти вам це повідомлення або поговоріть з людиною, яка розуміє його зміст.

このレポートには飲料水に関する重要な情報が記載されています。この英文を訳してもらうか、またはどなたか英語が分かる方にたずねてください。

此報告包含有關您的飲用水的重要資訊。請人幫您翻譯出來，或請能看懂此報告的人將內容說給您聽。

هذا التقرير يحتوي على معولمات مهمة عن ماء الشرب الذي تسخدمه. اطلب من شخص ما ان يترجمه لك او يستطيع فهمه.

이 보고서에는 귀하의 식수에 대한 중요한 내용이 실려있습니다. 그러므로 이 보고서를 이해할 수 있는 사람한테 번역해 달라고 부탁하시기 바랍니다.

Source of Your Water

BCWSA's Solebury System is supplied by water from three wells located in Solebury Township, Bucks County, PA. In 2020 the average amount of water produced from these wells was 93,862 gallons each day.

Help Us Protect Our Source

Protection of our drinking water source is key to sustaining safe drinking water. There's many things you can do to help protect our water and the environment.

- Recycling keeps items from making their way into a body of water.
- Do not use the toilet as a wastebasket.
- Dispose of pharmaceuticals properly.
- Properly dispose of household chemicals, oils and paint properly. These can impact water ways if poured down drain. Find a local chemical pickup or drop-off location in your area.
- Minimize use of harsh chemicals – they can devastate ecosystems if they reach a body of water.
- Properly maintain your septic system.
- Clean up after pets.
- Maintain heating oil tanks and fill lines.
- Participate in local watershed activities.
- Report spills, illegal dumping, or suspicious activity.

History/Facts About BCWSA

Formed in 1962

Non-profit, municipal authority

87,000 customers

500,000 people

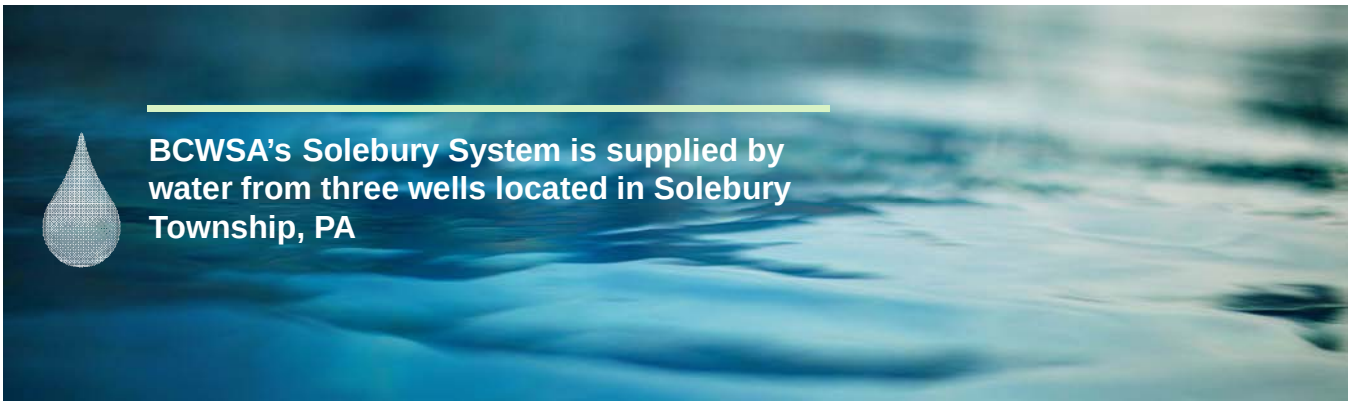
Serve **23** townships/boroughs

Over **125** pumping stations

1,200 miles of water and sanitary piping

3,000 fire hydrants

10 MGD Capacity



Substances in Drinking Water

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 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 organic chemicals, which are byproducts 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 prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. We treat your water according to EPA's regulations. Food and Drug Administration (FDA) 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 EPA's Safe Drinking Water Hotline at 800-426-4791.

Special Risk Populations

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 at 800-426-4791.

Additional Water Quality Information

Delivering high-quality drinking water to our customers is a scientific and engineering feat that requires considerable effort and talent to ensure the water is always there and safe to drink. Because tap water is highly regulated by state and federal laws, water treatment and distribution operators must be licensed and are required to complete on-the-job training and technical education before becoming a state certified operator. Our licensed water operators have an understanding of a wide range of subjects, including mathematics, biology, chemistry, physics, and engineering. Some of the tasks they complete on a regular basis include:

- Operating and maintaining equipment to purify and clarify water;
- Monitoring and inspecting machinery, meters, gauges, and operating conditions;
- Conducting tests and inspections on water and evaluating the results; and
- Documenting and reporting test results and system operations to regulatory agencies.
- Serving our community through customer support, education, and outreach.

So, the next time you turn on your faucet, think of the skilled professionals who stand behind every drop.

Common Water Quality Questions

What is the hardness of my water?

Water hardness is a measure of the concentration of two minerals naturally present in water – calcium and magnesium. Hard water may cause scale buildup in appliances and on fixtures and cookware, and may require using more soap to form a lather. Your harness level can be found in the data tables in this report.

Water Hardness Scale

grains per gallon (gpg)	mg/l or ppm	Classification
0 - 1	0 – 17.1	Soft
1 – 3.5	17.1 – 60	Slightly Hard
3.5 – 7	60 – 120	Moderately Hard
7 – 10.5	120 – 180	Hard
10.5 & over	180 & over	Very Hard

What is the pink stain or residue I am noticing?

If you are seeing a pink or reddish slime or stain on fixtures, in the sink or shower, at the toilet waterline, or in pet dishes you are not alone. This coloring is actually from an airborne bacteria, *Serratia marcescens*, that is found naturally in soil, food, and animals. The bacteria is harmless to humans and pets, but can be a nuisance. It thrives on moisture, so to keep the bacteria from growing, clean and dry surfaces frequently and use a chlorinated cleaner to kill them.

Why does my water look cloudy or milky?

One of the most likely causes is trapped air bubbles in the water. This is intensified during cold weather because cold water holds more oxygen than warm water. Fill a clear glass and watch how the cloudiness clears – air bubbles will rise and you will notice the water clearing from the bottom first.

Terms and Abbreviations Used in This Report

The water quality test results in this report may contain terms and abbreviations with which you are not familiar. Here is a quick reference guide to help you better understand unfamiliar terms and abbreviations.

90th Percentile – Represents the highest value found out of 90 percent of the samples taken in a representative group. If the 90th percentile is greater than the action level, it will trigger a treatment or additional requirement that a water system must follow.

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

Alkalinity – A measure of the water's ability to resist changes in the pH level and a good indicator of overall water quality.

E. coli (Escherichia coli) – A type of coliform bacteria that are associated with human and animal fecal waste.

Haloacetic Acids (HAA5) – A group of five (5) chemicals called disinfection byproducts, which form during chlorination.

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 the 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.

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) – Highest level of disinfectant allowed in drinking water. There is convincing evidence that additional disinfectant is necessary for control of microbial contaminants.

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

Nephelometric Turbidity Unit (NTU) – A measure of water clarity.

Not Applicable (NA) – Results are not applicable.

Not Detectable (ND) – Results are below the detection level of the instrumentation.

Picocuries per liter (pCi/L) – A measure of radioactivity.

Parts per billion or micrograms per liter (ppb or µg/L) – One part per billion equals about 1 ounce in 7,500,000 gallons of water.

Parts per million or milligrams per liter (ppm or mg/L) – One part per million equals about 1 ounce in 7,500 gallons of water.

Parts per quadrillion or picrograms per liter (ppt or ng/L) – One part per quadrillion equals about 1 ounce in 7,500,000,000,000 gallons of water.

Parts per trillion or nanograms per liter (ppt or ng/L) – One part per trillion equals about 1 ounce in 7,500,000,000 gallons of water.

Total coliform – Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present.

Total Organic Carbon (TOC) – A measure of the carbon content of organic matter. The measure provides an indication of how much organic material in the water could potentially react with chlorine to form HAAs and THMs.

Total Trihalomethanes (TTHM) – A group of chemicals called disinfection byproducts, which form during chlorination. TTHMs form when natural organic matter decompose and combine chemically with the chlorine added for disinfection. These levels vary seasonally.

Turbidity – A measure of the clarity of water related to its particle content. Turbidity serves as an indicator for the effectiveness of the water treatment process.

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

How to Read and Understand the Data Tables

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.

In general, drinking water standards are regulated by a maximum contaminant level (MCL) or a treatment technique (TT). For parameters with an MCL, we must sample at the required frequency and results must be below the MCL. Depending on the parameter, the MCL may apply to individual results, an average of all results in a calendar year, or an average of all results in a calendar year for a specific site. For parameters with a TT, we must sample at the required frequency and are required to take action (such as a change in treatment) if specified conditions are not met. Specified conditions vary per regulation.

Beginning with the **Contaminant** column, read across. **MCLG** is the goal level for that contaminant (goal may be set lower than MCL). **MCL** shows the highest level of contaminant allowed. **Level Detected** represents the measured amount in your water. **Range** will give you the lowest and highest amounts measured. The **Sample Date** will be the year the samples were collected. The **Violation** column will tell you whether the result met government requirements. **Typical Source** tells where the substance usually originates.

List of Contaminants Not Detected

Below is a list of compounds that were tested for but not detected:

Volatile Organic Chemicals
1,1,1-Trichloroethane
1,1,2-Trichloroethane
1,1-Dichloroethene
1,2,4-Trichlorobenzene
1,2-Dichlorobenzene
1,2-Dichloroethane
1,2-Dichloropropane
1,4-Dichlorobenzene
Benzene
Carbon tetrachloride
Chlorobenzene
cis-1,2-Dichloroethene
Ethyl benzene
Methylene chloride (Dichloromethane)
Styrene
Tetrachloroethene (PCE)
Toluene
trans-1,2-Dichlorethene
Trichloroethylene (TCE)
Vinyl chloride
Xylenes, Total

Microbiological Contaminants
Coliform, total
E. coli

Inorganic Chemicals
Antimony
Beryllium
Cadmium
Chromium
Cyanide, free
Fluoride
Mercury
Nickel
Nitrite
Selenium
Thallium

Radioactive Contaminants
Combined Radium

Synthetic Organic Chemicals
1,2-Dibromo-3-chloropropane (DBCP)
2,3,7,8-TCDD (dioxin)
2,4,5-TP Silvex
2,4-D
Alachlor
Atrazine
Benzo(a)pyrene
Carbofuran
Chlordane
Dalapon
di(2-Ethylhexyl) adipate
di(2-Ethylhexyl) phthalate
Dinoseb
Diquat
Endothall
Endrin
Ethylene dibromide (EDB)
Glyphosate
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorocyclopentadiene
Lindane
Methoxychlor
Oxamyl (vydate)
PCBs
Pentachlorophenol
Piclorem
Simazine
Toxaphene

Chemical Contaminants

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Level Detected	Range		Sample Date	Violation	Typical Source
				Low	High			
Chlorine (ppm)	4	4	1.16	0.74	1.16	2019	No	Water additive used to control microbes
Arsenic (ppb)	0	10	7.3	ND	9	2020	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	2	2	0.336	0.323	0.336	2018	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Nitrate (ppm)	10	10	2.58	1.66	2.58	2020	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Arsenic Advisory

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Nitrate Advisory

Nitrate in drinking water at levels above 10ppm 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.

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	7.57	NA	NA	2020	No	By-product of drinking water chlorination
Total Trihalomethanes (TTHMs) (ppb)	NA	80	24.9	NA	NA	2020	No	By-product of drinking water disinfection

Entry Point Disinfectant Residual

Contaminants	Entry Point	Minimum Disinfectant Residual	Lowest Level Detected	Highest Level Detected	Sample Date	Violation	Typical Source
Chlorine (ppm)	101	0.54	ND	2.44	2020	No	Water additive used to control microbes
	102	0.53	0.2	1.3		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	11.5	6.28	11.5	2016 & 2019	No	Erosion of natural deposits
Combined Uranium (µg/L)	0	30	17.1	5.06	17.1	2019	No	Erosion of natural deposits

Lead and Copper — Samples are collected from consumers taps, 90th 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	2019	0 out of 10	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper – AL at consumer taps (ppm)	1.3	1.3	0.194	2019	0 out of 10	No	Corrosion of household plumbing systems; erosion of natural deposits

Additional Information for 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. BCWSA 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 at 800-426-4791 or at www.epa.gov/safewater/lead.

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
Total Alkalinity		166 ppm
Aluminum	0.05 to 0.2 ppm	< 0.010 ppm
Calcium		55 ppm
Chloride	250 ppm	73.2 ppm
Color	15 Color Units	< 5 Color Units
Corrosivity	-1 to +1 Langelier Index	0.05 Langelier Index
Foaming Agents (MBAS)	0.5 ppm	< 0.050 ppm
Hardness	50 to 250 ppm	314 ppm
Iron	0.3 ppm	0.109 ppm
Magnesium		28.4 ppm
Manganese	0.05 ppm	< 0.010 ppm
Odor	3 TON	<1 TON
pH	6.5 to 8.5	7.16
Sodium		22.7 ppm
Sulfate	250 ppm	< 5.00 ppm
Total Dissolved Solids	500 ppm	330 ppm
Zinc	5 ppm	< 0.010 ppm

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. The EPA has developed a health advisory level (HAL) of 70 parts per trillion (ppt) for the sum of perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) combined, but has not yet established regulatory limits for compliance by public water suppliers. Because of concerns about PFAS contamination in the region, BCWSA tested each of its entry points for PFAS in 2019. Results from that testing are in the table below. Additional information can be found on EPA's website at www.epa.gov/pfas.

Entry Point	PFOS (ppt)	PFOA (ppt)	PFOS + PFOA (ppt)
EP101	8.1	11	19.1
EP102	4.8	10	14.8

Water Conservation Tips

Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference – try one today and soon it will become second nature.

- Take short showers – a 5 minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month.
- Use a water-efficient showerhead. They're inexpensive, easy to install, and can save you up to 750 gallons a month.
- Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
- Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
- Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill!
- Visit www.epa.gov/watersense for more information.

Customer Participation

Residents can help ensure the safety of our water supply by reporting any suspicious activities near any water tank, reservoir, or hydrants to our office at 215-343-3946, 24 hours a day, 7 days a week.

The Board of Directors of BCWSA meets on the second Tuesday of each month at 8:30am and the fourth Monday of each month at 7:00pm in the public meeting room at the Authority office located at 1275 Almshouse Road in Warrington, PA. Please feel free to attend and participate in these meetings.

Important Contact Information

BCWSA Customer Service
800-222-2068 www.bcwsa.net

Pennsylvania Department of Environmental Protection
www.dep.pa.gov

United States Environmental Protection Agency
www.epa.gov

EPA Safe Drinking Water Hotline
800-426-4791

American Water Works Association
www.awwa.org

United States Centers for Disease Control and Prevention
888-CDC-INFO www.cdc.gov