

**2021 ANNUAL DRINKING WATER QUALITY REPORT****Bernville Borough Water System****PWSID #: 3060085**

*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 Mike Kreiser at 717-228-7419. 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 on the first Tuesday of the month at 7 PM.

**SOURCE(S) OF WATER:**

Penn Township Main Well (#3) and Well #4. Both wells are groundwater wells located in Bernville. Wells #1 and #2 have been abandoned.

**MONITORING YOUR WATER:**

We routinely monitor for contaminants in your drinking water according to federal and state laws. The following tables show the results of our monitoring for the period of January 1 to December 31, 2021. 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.

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).

**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:**

| <b>Lead and Copper</b> |                          |             |   |              |   |                      |                                  |
|------------------------|--------------------------|-------------|---|--------------|---|----------------------|----------------------------------|
| <b>Contaminant</b>     | <b>Action Level (AL)</b> | <b>MCLG</b> | <b>90<sup>th</sup> Percentile Value</b> | <b>Units</b> | <b># of Sites Above AL of Total Sites</b> | <b>Violation Y/N</b> | <b>Sources of Contamination</b>  |
| Lead                   | 15                       | 0           | 0                                       | ppb          | 0   | N                    | Corrosion of household plumbing. |
| Copper                 | 1.3                      | 1.3         | 0.099                                   | ppm          | 0   | N                    | Corrosion of household plumbing. |

| <b>Chemical Contaminants</b> |                         |             |                       |                            |              |                    |                      |  |
|------------------------------|-------------------------|-------------|-----------------------|----------------------------|--------------|--------------------|----------------------|--|
| <b>Contaminant</b>           | <b>MCL in CCR Units</b> | <b>MCLG</b> | <b>Level Detected</b> | <b>Range of Detections</b> | <b>Units</b> | <b>Sample Date</b> | <b>Violation Y/N</b> | <b>Sources of Contamination</b>  |
| Arsenic                      | 10                      | 0           | 7                     | 6-7                        | ppb          | 05/24/21           | N                    | Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes |
| Barium                       | 2                       | 2           | 0.082                 | 0.077-0.082                | ppm          | 05/24/21           | N                    | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits             |
| Nitrate                      | 10                      | 10          | 3.64                  | 2.44-3.64                  | ppm          | 05/24/21           | N                    | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits            |
| Selenium                     | 50                      | 50          | 3                     | 2-3                        | ppb          | 05/24/21           | N                    | Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines       |
| Antimony                     | 6                       | 6           | 3.7                   | 3.3-3.7                    | ppb          | 05/24/21           | N                    | Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder                    |
| Haloacetic Acids             | 60                      | N/A         | 1.17                  | N/A                        | ppb          | 08/25/21           | N                    | By-product of drinking water disinfection  |
| Trihalomethanes              | 80                      | N/A         | 14.1                  | N/A                        | ppb          | 08/25/21           | N                    | By-product of drinking water disinfection  |
| Chlorine                     | MRDL=4                  | MRDLG=4     | 1.33                  | 0.98-1.33                  | ppm          | Feb 2021           | N                    | Water additive used to control microbes  |

\*EPA's MCL for fluoride is 4 ppm. However, Pennsylvania has set a lower MCL to better protect human health.

| <b>Entry Point Disinfectant Residual</b> |                                      |                              |                            |              |                    |                      |  |
|--|--------------------------------------|------------------------------|----------------------------|--------------|--------------------|----------------------|--|
| <b>Contaminant</b>                       | <b>Minimum Disinfectant Residual</b> | <b>Lowest Level Detected</b> | <b>Range of Detections</b> | <b>Units</b> | <b>Sample Date</b> | <b>Violation Y/N</b> | <b>Sources of Contamination</b>          |
| Chlorine, EP 101                         | 0.40                                 | 0.77                         | 0.77-1.64                  | ppm          | 08/08/21           | N                    | Water additive used to control microbes. |

| <b>Microbial (related to Assessments/Corrective Actions regarding TC positive results)</b> |   |             |   |                      |                                       |
|--|---|-------------|---|----------------------|---------------------------------------|
| <b>Contaminants</b>  | <b>TT</b>   | <b>MCLG</b> | <b>Assessments/ Corrective Actions</b>  | <b>Violation Y/N</b> | <b>Sources of Contamination</b>       |
| Total Coliform Bacteria  | Any system that has failed to complete all the required assessments <b>or</b> correct all identified sanitary defects, is in violation of the treatment technique requirement | N/A         | See detailed description under "Detected Contaminants Health Effects Language and Corrective Actions" section | N                    | Naturally present in the environment. |

| <b>Microbial (related to E. coli)</b> |   |             |  |                      |                                 |
|---------------------------------------|---|-------------|--|----------------------|---------------------------------|
| <b>Contaminants</b>                   | <b>MCL</b>  | <b>MCLG</b> | <b>Positive Sample(s)</b>  | <b>Violation Y/N</b> | <b>Sources of Contamination</b> |
| <i>E. coli</i>                        | Routine and repeat samples are total coliform-positive <b>and</b> either is <i>E. coli</i> -positive <b>or</b> system fails to take repeat samples following <i>E. coli</i> -positive routine sample <b>or</b> system fails to analyze total coliform-positive repeat sample for <i>E. coli</i> . | 0           | 0  | N                    | Human and animal fecal waste.   |
| <b>Contaminants</b>                   | <b>TT</b>   | <b>MCLG</b> | <b>Assessments/ Corrective Actions</b>   | <b>Violation Y/N</b> | <b>Sources of Contamination</b> |
| <i>E. coli</i>                        | Any system that has failed to complete all the required assessments <b>or</b> correct all identified sanitary defects, is in violation of the treatment technique requirement   | N/A         | See description under "Detected Contaminants Health Effects Language and Corrective Actions" section | N                    | Human and animal fecal waste.   |

| <b>Raw Source Water Microbial</b> |             |                                    |              |                      |                                 |
|-----------------------------------|-------------|------------------------------------|--------------|----------------------|---------------------------------|
| <b>Contaminants</b>               | <b>MCLG</b> | <b>Total # of Positive Samples</b> | <b>Dates</b> | <b>Violation Y/N</b> | <b>Sources of Contamination</b> |
| <i>E. coli</i>                    | 0           | NONE REQUIRED                      | N/A          | N                    | Human and animal fecal waste.   |

**OTHER VIOLATIONS:** There were no violations in 2021.

**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 amount 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. Bernville Borough Water System 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>.

**DETECTED CONTAMINANTS HEALTH EFFECTS LANGUAGE AND CORRECTIVE ACTIONS:**

**Arsenic-** 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.

**Barium** – Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.

**Nitrate** – Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.

**Selenium** – Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.

**Antimony** – Some people who drink water containing antimony well in excess of the MCL over many years could experience increases in blood cholesterol and decreases in blood sugar.

**Haloacetic Acids** – Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

**Trihalomethanes** – Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

**Chlorine** - Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.