

**2023**  
**Annual Drinking Water Quality Report**  
**Bern Township Municipal Authority**

**Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.**

We're pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a dependable supply of drinking water. We want you to understand the efforts we make to continually improve and protect our water resources. We are committed to ensuring the quality of your water. The Reading Area Water Authority supplies our water in your area. The water supply for the Reading Area Water Authority is obtained from a surface water source, Lake Ontelaunee. Lake Ontelaunee is located six miles north of Reading and is a 1,082-acre man made lake with a drainage area of about 192 square miles. We're pleased to report that our drinking water meets federal and state requirements.

If you have any questions about this report or concerning your water utility, please contact Lori Hozza at (610) 916-9919. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the fourth Wednesday of the month at 11:00 A.M. at the Bern Township Municipal Building.

Bern Township Municipal Authority routinely monitors for constituents in your drinking water according to Federal and State laws. 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, though representative, are more than a year old. This table shows the results of our monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2023.

**Table Definitions**

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

**MCL (Maximum Contaminant Level):** 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.

**MCLG (Maximum Contaminant Level Goal):** 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.

**MRDL (Maximum Residual Disinfectant Level):** 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.

**MRDLG (Maximum Residual Disinfectant level Goal):** 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.

**n/a** not applicable **nd** not detectable at testing limit **ppb** parts per billion or micrograms per liter **ppm** parts per million or milligrams per liter **pCi/L** picocuries per liter (a measure of radiation).

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

**Turbidity:** Is a measure of the cloudiness of the water **NTU** Nephelometric Turbidity Unit. We monitor it because it is a good indicator of the effectiveness of the filtration system.

Inorganic Contaminants	Violation Y/N	Level Detected	Unit of Measurement	Range	MCL	MCLG	Sources of Contamination
Nitrate (B)	N	4.94	ppm	1.43-4.94	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Fluoride (B)	N	.83	ppm	0.47-0.83	2*	4	Water additive which promotes strong teeth Erosion of natural deposits: Discharge from fertilizers and aluminum factories.

Contaminants	Violation Y/N	Level Detected	Unit of Measurement	Range	MRDL	MRDLG	Sources of Contamination
Chloramines	N	2.54	ppm	1.43-3.14	4	4	Water additive used to control microbes.
TTHMs (Total trihalomethanes)	N	43.33*	ppb	25.10-69.9**	80	NA	Byproduct of drinking water chlorination.

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

\* Based on a running annual average

\*\* Based on the quarterly averages for the CCR year

<i>Entry Point Disinfectant Residual</i>							
Chemical Contaminant	Minimum Disinfectant Residual	Lowest Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Chloramine	0.2	1.82	1.82-3.75	ppm	May 2023	N	Water additive used to control microbes.

Contaminant	Violation Y/N	Level Detected 90%	Unit of Measurement	Range	# of Sites Above AL	Action Level (AL)	MCLG	Source of Contamination
Lead (A)	N	0	ppb	ND to 0	0 of 5	15 ppb	0	Corrosion of household plumbing.
Copper (A)	N	0.088	ppm	0.017 to .088	0 of 5	1.3 ppm	1.3	Corrosion of household plumbing

Contaminant	Violation Y/N	# of Positive Samples/Month	MCL	MCLG	Sources of Contamination
Total Coliform Bacteria	N	0	0 positive monthly sample	N/A	Naturally present in the environment.

Contaminant	Violation Y/N	Highest Measurement	Lowest Monthly % of Samples meeting TT/month	MCL = (TT) *	MCLG	Source of Contamination
Turbidity (B)	N	0.22 NTU	100 %	95% of monthly samples $\leq$ TT (0.3 NTU)	0	Soil Runoff.

Contaminant	Violation Y/N	% Removal Achieved	% Removal Required	MCL = (TT)	Source of Contamination
Total Organic Carbon (TOC) (B)	N	42.4-55.3%	0% - 35%	% Removal Required Varies with raw water TOC and alkalinity	Naturally Present in the Environment

(A) – Samples taken by Bern Township in July, 2022

(B) – Samples taken by Reading Area Water Authority

**Footnotes: NP = No Bacteria Present.**

**\*Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. For Turbidity, the Treatment Technique (TT) depends on the type of filtration provided. Compliance is based on 95% or more of the total monthly samples being  $\leq$  TT 0.3. No single sample may exceed 1 NTU**

**Violations:** BTMA had one violation on 07/19/2023 due to incorrect paperwork. A public Notice was issued.

### **Substances Expected to be in Drinking Water**

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. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

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. Those constituents can be microbes, organic or inorganic chemicals, or radioactive materials. All 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 Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

MCL's are set at very stringent levels for health effects. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

### **Special Health Information**

BTMA is happy to report no samples in 2023 tested positive for total coliform.

If a water main does break "Boil Water Notices" would be sent to those customers that are affected through the Rave Emergency Call Out System. When normal water services are restored the lines would be flushed and the required samples would be taken for disinfectant levels.

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. USEPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

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**. BTMA 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>

## How is My Water Treated and Purified

The treatment method used by the Reading Area Water Authority is called conventional, which is the most efficient and commonly used method. A chemical coagulant, e.g., aluminum sulfate or ferric chloride is added to the water to convert the undesirable materials into solid particles so they can be separated from the water by gravity. The finer remaining particles which are slow to settle out are then removed by filtration.

Raw water flows to the treatment plant where it passes through a bar screen to remove any plant debris and other large objects. Optimum doses of the following chemicals are added to the water in the following order.

1. Chlorine (to eliminate bacterial and algae growth throughout the treatment plant).
2. Aluminum sulfate or alum (to coagulate undesirable materials).
3. Potassium permanganate (to aid in the removal of manganese and reduce undesirable tastes and odors from the water).
4. Powder –activated carbon or charcoal (to eliminate undesirable tastes and odors).

After these chemicals are mixed with water, it flows through a set of flocculation channels that force the large particles to settle to the bottom. The water then flows slowly into three large sedimentation basins and is allowed to stay for six to ten hours at a state of quiescence to settle the solid particles. Eight large filters then remove the remaining microscopic floc particles. The filters are huge concrete boxes containing large to fine gravel, fine garnet sand, silica sand and fine anthracite coal.

The filtered water is then treated with the following chemicals as the final treatment step.

1. Caustic soda (to adjust pH and alkalinity of water to a healthy level and to reduce the potential corrosiveness of water on the distribution system).
2. Sodium fluorosilicate (to provide fluoride into the distribution system).
3. Orthophosphates (to reduce corrosion in the distribution system).
4. Chlorine (to maintain a residual disinfectant in the distribution system).

The treated water then flows to several water storage tanks before being pumped to your residence.

Although the Reading Area Water Authority is concerned with protecting its only source of water, current treatment processes are capable of transforming raw water, from the lake, into finished water that meets all federal and state drinking water standards. To view a copy of the source water assessment, contact Dean Miller of the Reading Area Water Authority, at (610) 655-6442

## Water Conservation Tips

The following conservation measures not only save the supply of our source water, but can also save you money by reducing your water bill.

Fix leaking faucets, pipes and **toilets**. The average leaky toilet can waste about 73,000 gallons of water per year.

Install water-saving devices in faucets, toilets and shower heads.

Wash only full loads of laundry or dishes.

Do not let the water run when brushing teeth or shaving.

Water lawns or gardens in the early morning or evening. Reset timers after power outages.

Use mulch.

Use a bucket to wash your car, and save the hose for rinsing.

Information on other ways that you can help conserve water can be found at:

[www.epa.gov/safewater/publicoutreach/index.html](http://www.epa.gov/safewater/publicoutreach/index.html).

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a dependable water supply we sometimes need to make improvements that will benefit all of our customers. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements. Thank you for understanding.

Please call our office if you have questions.

We at Bern Township Municipal Authority work to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our future.

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