

2023 Water Quality Report for the Village of Pentwater

Water Supply Serial Number: 5260

This report covers the drinking water quality for The Village of Pentwater for the 2023 calendar year. This information is a snapshot of the quality of the water that we provided to you in 2023. Included are details about where your water comes from, what it contains, and how it compares to United States Environmental Protection Agency (U.S. EPA) and state standards.

Your water comes from three groundwater wells, each over 200ft deep. The State performed an assessment of our source water to determine the susceptibility or the relative potential of contamination. The susceptibility rating is on a seven-tiered scale from "very-low" to "very-high" based on geologic sensitivity, well construction, water chemistry and contamination sources. The susceptibility of our source is moderately low for well #1, very high for well #2 and #3.

There are no significant sources of contamination in our water supply. We are making efforts to protect our sources by participating in the Wellhead Protection Program.

If you would like to know more about this report, please contact: Pentwater Village Hall, 65 S Hancock St at (231) 869-8301 or email at ntarnowski@pentwatervillage.org.

Contaminants and their presence in water: 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 U.S. EPA's Safe Drinking Water Hotline (800-426-4791).

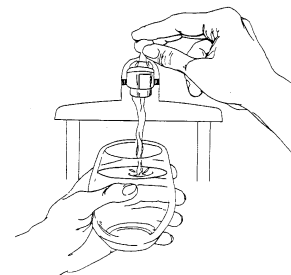
Vulnerability of sub-populations: Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune systems 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. U.S. EPA/Center for Disease Control 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).

Sources of drinking water: The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Our water comes from 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 and residential uses.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.
- **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.



In order to ensure that tap water is safe to drink, the U.S. EPA prescribes regulations that limit the levels of certain contaminants in water provided by public water systems.

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

Water Quality Data

The table below lists all the drinking water contaminants that we detected during the 2023 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2023. The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. All the data is representative of the water quality, but some are more than one year old.

Terms and abbreviations used below:

- 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 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 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.
- Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.
- N/A: Not applicable
- ND: not detectable at testing limit
- ppm: parts per million or milligrams per liter
- ppb: parts per billion or micrograms per liter
- ppt: parts per trillion or nanograms per liter
- pCi/l: picocuries per liter (a measure of radioactivity)
- Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
- Level 1 Assessment: A study of the water supply to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
- Level 2 Assessment: 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.

Regulated Contaminant	MCL, TT, or MRDL	MCLG or MRDLG	Level Detected	Range	Year Sampled	Violation Yes/No	Typical Source of Contaminant
Arsenic (ppb)	10	0	6.7	5.5-7.7	2023	NO	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2	2	.11	N/A	2022	NO	Discharge of drilling wastes; Discharge of metal refineries; Erosion of natural deposits
Nitrate (ppm)	10	10	0	N/A	2023	NO	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Fluoride (ppm)	4	4	.54	N/A	2023	NO	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Sodium ¹ (ppm)	N/A	N/A	68	N/A	2022	NO	Erosion of natural deposits
TTHM Total Trihalomethanes (ppb)	80	N/A	23	N/A	2023	NO	Byproduct of drinking water disinfection
HAA5 Haloacetic Acids (ppb)	60	N/A	6.4	N/A	2023	NO	Byproduct of drinking water disinfection
Chlorine ² (ppm)	4	4	.56	.31-1.01	2023	NO	Water additive used to control microbes
Alpha emitters (pCi/L)	15	0	0	N/A	2018	NO	Erosion of natural deposits
Combined radium (pCi/L)	5	0	0	N/A	2018	NO	Erosion of natural deposits
Total Coliform	TT	N/A	N/A	N/A	2023	NO	Naturally present in the environment
E. coli in the distribution system (positive samples)	See E. coli note ³	0	0	N/A	2023	NO	Human and animal fecal waste
Fecal Indicator – E. coli at the source (positive samples)	TT	N/A	0	N/A	2023	NO	Human and animal fecal waste

¹ Sodium is not a regulated contaminant.

² The chlorine “Level Detected” was calculated using a running annual average.

³ *E. coli* MCL violation occurs if: (1) routine and repeat samples are total coliform-positive and either is *E. coli*-positive, or (2) the supply fails to take all required repeat samples following *E. coli*-positive routine sample, or (3) the supply fails to analyze total coliform-positive repeat sample for *E. coli*.

Per- and polyfluoroalkyl substances (PFAS)							
Regulated Contaminant	MCL, TT, or MRDL	MCLG or MRDLG	Level Detected	Range	Year Sampled	Violation Yes/No	Typical Source of Contaminant
Hexafluoropropylene oxide dimer acid (HFPO-DA) (ppt)	370	N/A	0	N/A	2023	NO	Discharge and waste from industrial facilities utilizing the Gen X chemical process
Perfluorobutane sulfonic acid (PFBS) (ppt)	420	N/A	0	N/A	2023	NO	Discharge and waste from industrial facilities; stain-resistant treatments
Perfluorohexane sulfonic acid (PFHxS) (ppt)	51	N/A	0	N/A	2023	NO	Firefighting foam; discharge and waste from industrial facilities
Perfluorohexanoic acid (PFHxA) (ppt)	400,000	N/A	0	N/A	2023	NO	Firefighting foam; discharge and waste from industrial facilities
Perfluorononanoic acid (PFNA) (ppt)	6	N/A	0	N/A	2023	NO	Discharge and waste from industrial facilities; breakdown of precursor compounds
Perfluorooctane sulfonic acid (PFOS) (ppt)	16	N/A	0	N/A	2023	NO	Firefighting foam; discharge from electroplating facilities; discharge and waste from industrial facilities
Perfluorooctanoic acid (PFOA) (ppt)	8	N/A	0	N/A	2023	NO	Discharge and waste from industrial facilities; stain-resistant treatments
Inorganic Contaminant Subject to Action Levels (AL)	Action Level	MCLG	Your Water ⁴	Range of Results	Year Sampled	Number of Samples Above AL	Typical Source of Contaminant
Lead (ppb)	15	0	4	0-8	2021	10	Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits
Copper (ppm)	1.3	1.3	.5	.042-.55	2021	10	Corrosion of household plumbing systems; Erosion of natural deposits

⁴ Ninety (90) percent of the samples collected were at or below the level reported for our water.

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 Village of Pentwater 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 have a lead service line it is recommended that you run your water for at least 5 minutes to flush water from both your home plumbing and the lead service line. 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>.

Infants and children who drink water containing lead could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

While your drinking water meets the U.S. EPA standard for arsenic, it does contain low levels of arsenic. The U.S. EPA standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. The U.S. 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.

Our water supply has 363 service lines of unknown material out of a total of 760 service lines.

Monitoring and Reporting to the Department of Environment, Great Lakes, and Energy (EGLE) Requirements: The State of Michigan and the U.S. EPA require us to test our water on a regular basis to ensure its safety. We met all the monitoring and reporting requirements for 2023.

We will update this report annually and will keep you informed of any problems that may occur throughout the year, as they happen. Copies are available at Pentwater Village Hall, 65 S Hancock St, (231) 869-8301 or email manager@pentwatervillage.org and this report will not be sent to you.

We invite public participation in decisions that affect drinking water quality. Village Council meets the 2nd Monday of each month at Park Place, 310 N Rust St at 6pm EST. For more information about your water, or the contents of this report, contact Nate Tarnowski, water superintendent at (231) 869-8301 or email at ntarnowski@pentwatervillage.org. For more information about safe drinking water, visit the U.S. EPA at <http://www.epa.gov/safewater>.

Instructions to Water Supplier

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1. Source of the Water Delivered must include:

- (A) Type of Water: e.g., surface water, groundwater
- (B) Commonly used name, if any, and location of body or bodies of water.
- (C) If a source water assessment has been completed, then the CCR shall notify customers of the availability of the assessment information and means to obtain it. In addition, a supply is encouraged to highlight in the report significant sources of contamination in the source water area if the supply has that information readily available.
- (D) If the supply has received a source water assessment from EGLE, then the report shall include a brief summary of the supply's susceptibility to potential sources of contamination.

2. Under "Level Detected" and "Range":

- (A) The CCR should contain the most recent data in the last five years.
- (B) In the "Level Detected" column:
 - i. enter the highest test result from the lab UNLESS a contaminant's compliance is determined based on a running annual average. Then, list the highest running annual average or locational running annual average.
 - ii. Enter the test result from the lab report for sodium, even if it was not detected.
- (C) In the "Range" column, enter the lowest to highest individual sample results such as "12-48" (if you sample more than once during the year OR from multiple locations).

3. Under "Year Sampled," enter the year sampled (if earlier than the year covered by the report).

4. Under "Violation Yes / No," enter "Yes" to indicate a violation of MCLs, MRDLs, or Treatment Techniques. You DO NOT need to put "Yes" in the table for monitoring or reporting violations.

5. Summary of a Violation/Public Notice

You must still describe all violations below the table, which should include a description of the violation, the mandatory health effects language (from Table 1 of R 325.10405), and actions taken to address the violation.

(A) If monitoring requirements were not met, explain the violation below the table such as:

During the monitoring period from ____ to ____, we did not take the required number of routine samples for [enter contaminant name]. This violation did not pose a threat to the quality of the drinking water. [FURTHER EXPLAIN WHAT HAPPENED, ACTIONS TAKEN TO REMEDY THE SITUATION, POTENTIAL HEALTH EFFECTS, AND STEPS TAKEN TO PREVENT ANOTHER VIOLATION.]

Mentioning a violation in the CCR does not count as meeting the Public Notice requirements, unless the report is directly delivered to all customers within the required Public Notice timeframe, all 10 public elements are included, and the Public Notice Certificate of Distribution is to EGLE within 10 days of distribution.

If using the CCR as a vehicle to distribute a Public Notice, the supply must directly deliver the CCR to every bill paying customer. As result, CCR waivers that allow small systems to post their CCR in one location or publish in a newspaper would no longer apply.

6. If arsenic was detected above 5 ppb but at or below 10 ppb include the following:

While your drinking water meets the U.S. EPA standard for arsenic, it does contain low levels of arsenic. The U.S EPA standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The U.S. 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.

7. If nitrate was detected above 5 ppm but below 10 ppm include the following:

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.

8. Reporting Sodium:

Sodium levels are required to be included in the contaminants table, even when sodium results are non-detect. There is no MCL/MCLG for sodium.

9. For supplies with lead service lines (or service lines of unknown material), include the number of lead service lines, the number of service lines of unknown material, and the total number of service lines in the supply.

10. Although it is not required to list the number of total coliform-positive samples, the number of E. coli-positive samples from the distribution system or raw wells must be included in the table.

11. If a Level 1 Assessment or a Level 2 Assessment was required, include the following, as appropriate:

- (A) During the past year we were required to conduct [INSERT NUMBER OF LEVEL 1 ASSESSMENTS] Level 1 Assessment(s). [INSERT NUMBER OF LEVEL 1 ASSESSMENTS] Level 1 Assessment(s) were completed. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions.
- (B) During the past year [INSERT NUMBER OF LEVEL 2 ASSESSMENTS] Level 2 Assessments were required to be completed for our water supply. [INSERT NUMBER OF LEVEL 2 ASSESSMENTS] Level 2 Assessments were completed. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions.

12. If a Level 1 Assessment or a Level 2 Assessment was required but not completed, or the identified sanitary defects were not corrected, include the following, as appropriate:

During the past year we failed to conduct all the required assessment(s).

During the past year we failed to correct all identified defects that were found during the assessment.

13. If a Level 1 Assessment or a Level 2 Assessment was required that was not due to an E. coli MCL violation, include the following:

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct the problems that were found during these assessments.

14. If a Level 2 Assessment was required due to a E. coli MCL violation, include the following:

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 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 found E. coli bacteria, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct the problems that were found during these assessments.

We were required to complete a Level 2 Assessment because we found E. coli in our water system. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions.

15. If E. coli was detected and the E. coli MCL was violated, include the following, as appropriate:

- (A) We had an E. coli-positive repeat sample following a total coliform-positive routine sample.
- (B) We had a total coliform-positive repeat sample following an E. coli-positive routine sample.
- (C) We failed to take all required repeat samples following an E. coli-positive routine sample.
- (D) We failed to test for E. coli when a repeat sample tests positive for total coliform.

16. If the groundwater supply has any uncorrected significant deficiency, as designated by EGLE, or fecal indicator positive source sample result during the year, include the following elements:

- (A) Nature of the significant deficiency or source of the fecal contamination, if known, and the date(s).
- (B) Whether the fecal contamination has been addressed and date addressed.
- (C) For unaddressed significant deficiencies and unaddressed fecal contamination, the approved plan and schedule for correction, including interim measures, and progress to date.
- (D) The potential health effects of the fecal indicator positive source sample.