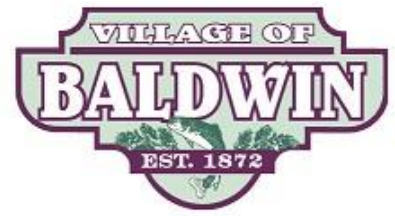




**INFRASTRUCTURE
ALTERNATIVES, INC.**



Village of Baldwin

Water Quality Report

2023



Our Mission

The Village of Baldwin strives to manage the water system to deliver you the best-quality drinking water. We continue to meet the requirements of the Safe Drinking Water Act and provide you with healthy, clean drinking water. To provide the best service possible, the Village of Baldwin has teamed with Infrastructure Alternatives Inc. to operate the water system.

This report covers the drinking water quality for the Village of Baldwin 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 Environmental Protection Agency (EPA) and state standards.

Where Does My Water Come From?

Your water comes from four (4) groundwater wells located within the village. The wells draw groundwater from aquifers which are between 120 and 180 feet deep. The oldest well was constructed in 1966 while the most recent well was constructed in 2003. The water is stored in two (2) elevated storage tanks. By having the water storage elevated, this supplies enough pressure within the distribution system without having additional booster pumps.



Important Health Information



Some people may be more vulnerable to contaminants in drinking water than the general population. People with compromised immune systems, 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. 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).

Contaminants That Could Be in Your 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 **EPA's Safe Drinking Water Hotline (800-426-4791).**

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 could be included in source water include:

- **Microbial contaminants**, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- **Inorganic contaminants**, such as salts and metals, can be naturally occurring or result from urban storm water 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, are by-products of industrial processes and petroleum production. This can also come from gas stations, urban storm water runoff, and septic systems.

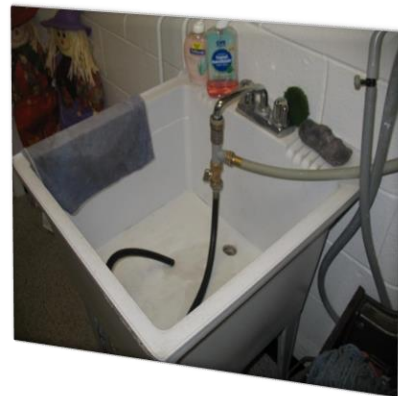
To ensure that tap water is safe to drink, EPA prescribes regulations that limit the number of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which provide the same protection for public health.

Community Participation

The Village of Baldwin would like to keep you informed about your drinking water. Copies of our budget and capital improvement plan are available upon request at the Village office. Attending the Village council meetings is another way to keep informed of the changes to your water system. The regular council meeting is the second Monday of each month, beginning at 7:00 p.m., at the Village office located at 620 Washington St.

Cross Connections

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (back-siphon).



Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground



may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed, and maintained. We have surveyed all industrial, commercial, and institutional facilities in the service area to make sure that all potential cross-connections are identified and eliminated or protected by a backflow preventer. We also require an inspection and test of each backflow preventer to make sure that it provides maximum protection.

For more information, review the [Cross-Connection Control Manual](#) from the U.S. EPA's Web site. You can also call the Safe Drinking Water Hotline at (800) 426-4791.

Lead in Your Home Plumbing

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 Baldwin 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>.

Infants and children who drink water containing lead more than the action level 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 period 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.

PFAS

What are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that includes PFOA, PFOS, GenX, and many other chemicals. PFAS have been manufactured and used in a variety of industries around the globe, including in the United States since the 1940s. PFOA and PFOS have been the most extensively produced and studied of these chemicals. Both chemicals are very persistent in the environment and in the human body – meaning they don't break down and they can accumulate over time. There is evidence that exposure to PFAS can lead to adverse human health effects.

PFAS can be found in:

- **Food** packaged in PFAS-containing materials, processed with equipment that used PFAS, or grown in PFAS-contaminated soil or water.
- **Commercial household products**, including stain- and water-repellent fabrics, nonstick products (e.g., Teflon), polishes, waxes, paints, cleaning products, and fire-fighting foams (a major source of groundwater contamination at airports and military bases where firefighting training occurs).
- **Workplace**, including production facilities or industries (e.g., chrome plating, electronics manufacturing, or oil recovery) that use PFAS.
- **Drinking water** typically localized and associated with a specific facility (e.g., manufacturer, landfill, wastewater treatment plant, firefighter training facility).
- **Living organisms**, including fish, animals, and humans, where PFAS could build up and persist over time.

Certain PFAS chemicals are no longer manufactured in the United States as a result of phase outs including the [PFOA Stewardship Program](#) in which eight major chemical manufacturers agreed to eliminate the use of PFOA and PFOA-related chemicals in their products and as emissions from their facilities. Although PFOA and PFOS are no longer manufactured in the United States, they are still produced internationally and can be imported into the United States in consumer goods such as carpet, leather and apparel, textiles, paper and packaging, coatings, rubber, and plastics.

For more information about PFAS, visit: [EPA PFAS Website](#)

Terms and Abbreviations

The following is a list of abbreviations and terms used when monitoring drinking water.

Abbreviation	Term	Definition
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.
AL	Action Level	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
ND	Not Detected	Indicates that the substance was not found by the laboratory.
ppb	Parts per billion	One part substance per billion parts of water
ppm	Parts per million	One part substance per million parts of water (1 milligram per liter)
ppt	Parts per trillion	One part substance per trillion parts of water

Sampling & Compliance

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 performed January 1 – 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 our water quality, even though some of the data is more than one year old.

Regulated Contaminant	MCL	MCLG	Your Water	Range	Sample Date	Violation Yes / No
Arsenic (ppb)	10	0	1.0	ND-3 ppb	2021	No
Source	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes					
Barium (ppm)	2	2	0.028	ND-0.0398	2021	No
Source	Discharge of drilling wastes; Discharge of metal refineries; Erosion of natural deposits					
Nitrate (ppm)	10	10	0.547	ND-0.547	2023	No
Source	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits					
Fluoride (ppm)	4	4	ND	ND	2023	No
Source	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories					
Hexafluoropropylene oxide dimer acid (HFPO-DA) (ppt)	370	N/A	ND	ND	2023	No
Source	Discharge and waste from industrial facilities utilizing the Gen X chemical process					
Perfluorobutane sulfonic acid (PFBS) (ppt)	420	N/A	ND	ND	2023	No
Source	Discharge and waste from industrial facilities; Stain-resistant treatments					
Perfluorohexane sulfonic acid (PFHxS) (ppt)	51	N/A	ND	ND	2023	No
Source	Firefighting foam; Discharge and waste from industrial facilities					
Perfluorohexanoic acid (PFHxA) (ppt)	400,000	N/A	ND	4.4	2023	No
Source	Firefighting foam; Discharge and waste from industrial facilities					
Perfluorononanoic acid (PFNA) (ppt)	6	N/A	ND	ND	2023	No
Source	Discharge and waste from industrial facilities; Breakdown of precursor compounds					
Perfluorooctane sulfonic acid (PFOS) (ppt)	16	N/A	ND	ND	2023	No
Source	Firefighting foam; Discharge from electroplating facilities; Discharge and waste from industrial facilities					
Perfluorooctanoic acid (PFOA) (ppt)	8	N/A	ND	ND	2023	No
Source	Discharge and waste from industrial facilities; Stain-resistant treatments					

Special Monitoring and Unregulated Contaminant **	Your Water	Range	Sample Date
Sodium (ppm)	14.482	5.03-29.2	2023
Source Erosion of natural deposits			
Chloride (ppm)	26.875	11.5-53.9	2023
Source Erosion of natural deposits			
Hardness as CaCo3 (ppm)	176.5	151-220	2023
Source Erosion of natural deposits			
Iron (ppm)	1.018	0.0580-2.96	2023
Source Erosion of natural deposits			
Sulfate (ppm)	15.1	10.4-25.1	2023
Source Erosion of natural deposits			

** Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.

Radioactive Contaminants	MCL	MCLG	Your Water	Range	Sample Date	Violation Yes / No	Typical Source of Contaminants
Alpha emitters (pCi/L)	15	0	0.7	.109 -1.43	2023	N	Erosion of natural deposits
Combined radium 226 / 228 (pCi/L)	5	0	0.9	.000 - .696	2023	N	Erosion of natural deposits

Contaminant Subject to AL	Action Level	MCLG	Ranges	90 th Percentile Value	Sample Date	Number of Samples Above AL
Lead (ppb)	15	0	0 ppb - 2 ppb	1 ppb	2021	0
Copper (ppm)	1.3	1.3	0.0 ppm - 0.1 ppm	0.1 ppm	2021	0

Estimated Number of Service Connections by Service Line Material

A service line includes any section of pipe from the water main to the building plumbing at the first shut-off valve inside the building, or 18 inches inside the building, whichever is shorter.

Any Portion Contains Lead	Contains Galvanized Previously Connected to Lead*	Unknown			Contains neither Lead, nor Galvanized Previously Connected to Lead	Total**
		Likely Contains Lead	Likely Does <u>Not</u> Contain Lead	Material(s) Unknown		
0	0	66	83	68	175	392

*If a galvanized line is still connected to lead, it is a lead service line and must be counted in the first column.

**The total number should equal the total number of potable water service lines in your water supply (residential, commercial, industrial, other).

Microbial Contaminants	Source	MCLG	Number Detected	Violation Yes / No
Total Coliform (total number or % of positive samples/month)	Naturally present in the environment	0	0	No
<i>E. coli</i> in the distribution system (positive samples)	Human and animal fecal waste.	0	0	No
Fecal Indicator <i>E. coli</i> at the source (positive samples)	Human and animal fecal waste.	0	0	No

E. coli MCL violation occurs if any of the following occur:

1. Routine and repeat samples total coliform-positive and either is *E. coli*-positive.
2. Supply fails to take all required repeat samples following *E. coli*-positive routine sample.
3. Supply fails to analyze total coliform-positive repeat sample for *E. coli*.

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.

Violations:

There were no violations within the water system.

More Information about Safe Drinking Water:

For more information about safe drinking water, visit the U.S. EPA at <http://www.epa.gov/safewater>.