WATER QUALITY REPORT

CONSUMER CONFIDENCE REPORT

Village of Brooklyn, Michigan
Calendar Year 2023
Water Supply Serial Number: 0920

More Information

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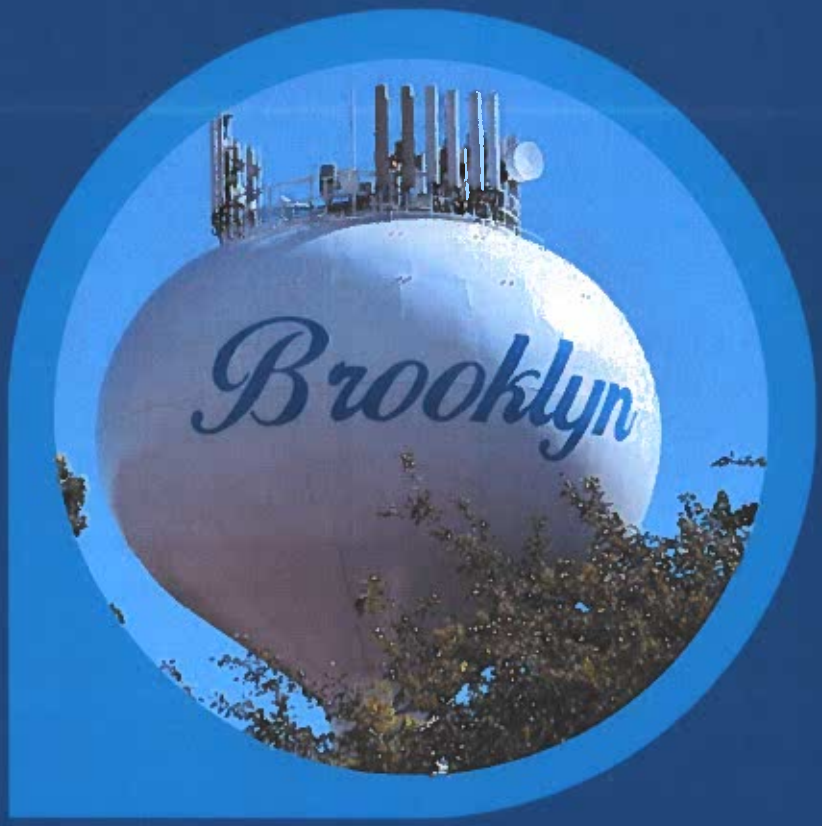

The Consumer Confidence Report is made available annually as required by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) for informational purposes only. The report does not identify any areas of concern for the Village's drinking water supply. The Village of Brooklyn continues to provide residents with the best drinking water possible. The following information is a snapshot of the quality of the drinking water that the Village provided during 2023. Report details include where your water comes from, what it contains, and how it compares to standards established by the United States Environmental Protection Agency (U.S. EPA) and the State of Michigan.

SOURCES OF DRINKING WATER:

Sources of drinking water for both tap water and bottled water include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Since 1952, the Village of Brooklyn has supplied drinking water to its customers from two groundwater wells with depths of 50 feet and 103 feet. The State of Michigan performed an assessment of the Village's source water to determine the susceptibility to or the relative potential of contamination. The susceptibility rating is reflected on a seven-tiered scale from "very low" to "very high" based on geologic sensitivity, well construction, water chemistry and potential contamination sources.

The aquifer from which this groundwater is obtained is characterized as "unconfined," meaning that sources of surface water filter through the ground directly above the aquifer as opposed to confined aquifers that are separated from sources of surface water by an impermeable layer of rock. Therefore, the Michigan Department of Environment, Great Lakes, and Energy (EGLE) has determined that Brooklyn's public wells possess a "high" susceptibility to contamination. However, no Maximum Contaminant Level (MCL) violations have occurred; the well construction meets state and federal standards; there are no potential sources of contamination within the standard isolation area; and known sources of contamination within the wellhead protection area are being remediated to prevent movement of contamination to the municipal wells. The Village of Brooklyn is a cooperating member of the Jackson County Wellhead Protection program. Source water assessment information is available at the Village Office, 121 N. Main Street, Brooklyn, MI, or by email to infoevillageofbrooklyn.com.

VILLAGE WATER SYSTEM IMPROVEMENTS

- During 2006, the Village replaced its original water tower with a new 300,000-gallon water tower.
- During 2006, several water mains were replaced to increase water pressure and capacity.
- During 2015, the exterior of the water tower was power washed, primed and recoated with a two-part epoxy paint as part of the Village's asset management program.
- During 2017, the iron removal filter system at the water plant was taken offline for routine maintenance. The interior and exterior of the filter tank were blasted, primed, and recoated with a two-part epoxy paint. The anthracite filter media was replaced, and a dehumidifier was installed to control the sweating of the tank and piping throughout the water plant.
- During 2019, the Village's water tower was taken offline, drained, chemically cleaned, inspected and the interior recoated as part of the Village's asset management program.
- During 2019, the water main at S. King and Tiffany Streets was replaced to increase water pressure and capacity.
- During 2021, the water main on Lane Street between South Main and Julian was replaced to increase water pressure and capacity.
- During 2021, the water main on Irwin Street between South Main and Sherman was replaced to increase water pressure and capacity.
- During 2022, the water main on Jackson Street was replaced to increase water pressure and capacity.
- During 2022, the water main on Water Street & Tecumseh Street was replaced between School Street and River Street.
- During 2022, the master flow meter and fluoride feed pump were upgraded to provide a greater level of chemical overfeed protection to ensure the safety of the consumers.
- During 2023, the Village began replacing individual consumer water meters. The project will continue into 2024.

After the water comes from the Village's wells, it is aerated and filtered to remove iron, treated with fluoride to preserve dental health, and treated with chlorine to protect consumers against microbial contaminants. The water is routinely sampled and tested for various contaminants as required by law. The table below lists all contaminants that were found in tests required by the State of Michigan in 2023. In some cases where the concentrations of contaminants are not expected to change frequently, monitoring tests may be done less than annually. The most recent results of those tests are shown in the table. Violations, if any occurred, would be printed in bold type and would be fully explained. As of this report, the Village water meets or exceeds all quality requirements as established by the Michigan Safe Water Drinking Act (PA 399 of 1976). All drinking water, including bottled water, may reasonably be expected to contain a small amount 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 at (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 transplants, people with HIV/AIDS or other immune system disorders, some elderly persons 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 (1-800-426-4791).

WATER QUALITY DATA

The table below lists all the drinking water contaminants that the Village detected during the 2023 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a risk to public health. Unless otherwise noted, the data presented in this table is from testing done between January 1 and December 31, 2023. The State of Michigan allows the Village 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 are representative of current water quality, but some data may be more than one year old.

The public is welcome to comment on or question this report at any meeting of the Brooklyn Village Council. Regular meetings are held on the 2nd Monday of each month at 6:00 p.m. Meetings will be held at the Brooklyn Branch of the Jackson County District Library, 207 N. Main Street, Brooklyn, Michigan. Written comments may be mailed to the Village of Brooklyn, P.O. Box 90, Brooklyn, MI 49230, by fax to (517) 592-2277, or by email to info@villageofbrooklyn.com.

TERMS AND ABBREVIATIONS

- Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected health risk. 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 in 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 health risk. MRDLGs do not reflect the benefit of the use of disinfectants to control microbial contaminants.
- 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 which 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.

Report of Regulated Substances Detected in the Village of Brooklyn Drinking Water During 2023 [Note: During 2023, all regulated substances detected were well within stringent Federal and State standards.]

Regulated Contaminant	Highest Detected Level	MCL	MCLG	Range of Detections	Most Recent Sample Date	Violation	Typical Source of Contaminant
Inorganics							
Fluoride (ppm)	0.95ppm	4ppm	4ppm	0.72-0.95 ppm	12/21/2022	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Sodium[1] (ppm)	18 ppm	N/A	N/A	N/A	7/6/2023	No	Erosion of natural deposits
Chlorine[2] (MRDL)	0.75 ppm	4 ppm MRDL	4 ppm MRDLG	0.65-0.73 ppm	Monthly	No	Disinfectant used to control microbes.
Lead[3] (ppd)	1 ppb	15 ppb	0 ppb	0 ppb-3 ppb	9/29/2021	No	Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits
Copper (ppm)	0.1 ppm	1.3 ppm	1.3 ppm	0.0 ppm -1.1 ppm	9/29/2021	No	Corrosions of household plumbing; erosion of natural deposits
Arsenic[4] (ppb)	3 ppb	10 ppb	0	N/A	11/3/2017	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	0.12 ppm	2 ppm	2 ppm	N/A	11/3/2017	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Organics							
Total Trihalomethanes (TTHM)	20 ppb	80 ppb	N/A	N/A	7/6/2023	No	By-product of drinking water Chlorination
Radium-226/228 (pCi/L)	2.29 pCi/L	5 pCi/L	5 pCi/L	N/A	7/11/2022	No	Erosion of natural deposits
Gross alpha emitters (pCi/L)	0.044 pCi/L	15 pCi/L	0 pCi/L	N/A	7/11/2022	No	Erosion of natural deposits
Per- and Polyfluoroalkyl Substances (PFAS)							
Perfluorobutane sulfonic acid (PFBS) (ppt)	2.05 ng/L	420 ng/L	N/A	0.0-4.1 ng/L	10/9/2023	No	Discharge and waste from industrial facilities; stain-resistant treatments
Perfluorohexanoic acid (PFHxA) (ppt)	1.3 ng/L	400,000 ng/L	N/A	0.0-2.6 ng/L	10/9/2023	No	Firefighting foam; discharge and waste from industrial facilities
Perfluoroctane sulfonic acid (PFOS) (ppt)	2.65 ng/L	16 ng/L	N/A	0.0-5.3 ng/L	10/9/2023	No	Firefighting foam; discharge from electroplating facilities; discharge and waste from industrial facilities

1) Sodium is not a regulated contaminant; however, sodium levels are provided for individuals with dietary and health concerns.

2) The chlorine level detected was calculated using a running annual average. Village drinking water is tested monthly, so chlorine levels are averaged for the calendar year.

3) 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. Though the Village is not aware of the presence of any lead service leads, since lead pipe was not in use in 1952 when the Village began providing drinking water, lead solder remained in use until 1986. The Village of Brooklyn is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components in privately owned residential and commercial properties. When your water has not been in use for several hours, you may minimize the potential for lead exposure by flushing your tap for 30 seconds to two 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 1-800-426-4791 or at https://www.epa.gov/lead/learn-about-lead

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

Additional Monitoring

*Additional analysis was done in 2023 to detect numerous carbamates, herbicides, and pesticides. All such tests were negative and none of these substances were detected. Analysis was also done to detect the presence of Cyanide and Nitrate. Those analyses also resulted in no detections.

*Analyses were done in 2023 to detect the presence of Per- and Polyfluoroalkyl substances (PFAS). PFBS, PFHxA, and PFOS were detected in the initial analysis. A second analysis was performed and no PFAS compounds were detected. PFAS compliance is based on a running annual average. The calculated averages for both analyses have made available in the table above. The levels detected of these substances are well below the state regulated maximum contaminate level. Per- and polyfluoroalkyl substances (PFAS) are a large group of man-made chemicals that include perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFAS). PFAS have been used globally during the past century in manufacturing, firefighting and thousands of common household and other consumer products such as but not limited to: water and stain repellent products, non-stick pots and pans, personal care products (e.g., cosmetics, lotions), insect repellants and sunscreens, and food packaging wrappers. PFAS chemicals are persistent in the environment and in the human body - meaning they don't break down and they can accumulate over time. In recent years, experts have become increasingly concerned by the potential effects of high concentrations of PFAS on human health. PFAS move easily through the ground and may get into groundwater that is used for some water supplies or for private drinking water wells. When spilled into lakes or rivers used as sources of drinking water, they can get into water supplies.

*Additional Information about Lead

The Village of Brooklyn is currently in the process of completing an inventory of all water distribution system materials used in the delivery of drinking water to consumers to ensure there is no presence of lead material in the system. As noted earlier in this report the Village is not aware of the presence of any lead service leads, since lead pipe was not in use in 1952 when the Village began providing drinking water. Our water supply currently has 628 service lines of unknown material out of a total of 628 service lines. The village is making every effort to verify the materials used in these service lines to ensure the quality of your drinking water. Through past records which include; original installation, system upgrades, and service replacements, we are compiling an inventory of what materials used for service lines are known. Those service lines that are still unknown after past records have been gone through will be verified using a combination of information we compile from inspections inside each household or business and in various locations along the service line outside of the household or business. Once this inventory is complete, we will begin replacing services lines that contain lead or any lead material, if any.

For additional information about your drinking water or the contents of this report, contact the Director of Public Works at 121 N. Main Street, P.O. Box 90, Brooklyn, MI 49230, call (517) 592-2591, or email dennis.spitler@villageofbrooklyn.com Additional copies of this report will also be available and can be reviewed at the Village of Brooklyn Office at 121 N. Main St. Brooklyn, MI 49230.

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The 2023 Consumer confidence report will also be available on the Village of Brooklyn's website at https://villageofbrooklyn.com/pdfs/reports/consumerconfidence/ConsumerConfidenceRpt_2023.pdf