

# 2019

# ANNUAL DRINKING WATER QUALITY REPORT

This report is a snapshot of the drinking water quality that was provided last year. Included are details about where your water came from, what it contained, and how it compared to state and federal standards. Our system makes every effort to provide you with safe and pure drinking water.

for  
**Nanatomqua Cooperative Corp.**  
**PWS ID #2045001**



Prepared by

**McCLURE**  
ENGINEERING, INC

*The water system is owned by Nanatomqua Cooperative Corp. If you have any questions about this report, or for additional copies, please contact Dick Turnbull or visit the McClure Engineering website at <http://www.mcclureengineers.com/water.html> or office at 508.248.2005.*

**This report contains very important information about your drinking water.**  
**Please translate it, or speak with someone who understands it.**

*Community Drinking Water Source*

**N**anatomqua Cooperative is located in Brookfield, MA and is supplied water by the following groundwater sources:

- PWS Source ID#2045001-01G (Well #01G)
- 2045001-03G (Well #03G)
- 2045001-04G (Well #04G)

Data in this report reflects water quality from Well 01G, Well 03G, and Well 04G.

Nanatomqua Cooperative continuously strives to produce the highest quality water possible to meet or surpass every water quality standard. We monitor our water source and distribution system very closely. The standards we operate under were enacted by the U.S. Congress as the Safe Drinking Water Act in 1974 and were amended in 1986 and 1996.

*Is My Water Treated?*

To ensure that we provide the highest quality of water available, certified operators and MassDEP regularly monitor water quality. When standards are exceeded, MassDEP requires treatment. Currently Well 01G is treated for manganese and VOCs via two trains operated in parallel inside Pump House #1. Each treatment train consists of a cartridge filter, an Aquabubble water softener with anion-exchange media for manganese removal, and an Aquabubble activated carbon filter for VOC removal. Water is regenerated with a sodium chloride brine rinse. Chlorine disinfection is available for emergency situations.

*Substances Found in Tap Water ~*

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 storm water runoff or domestic wastewater discharges, oil and gas production, mining, and farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water 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 storm water runoff, and septic systems.
- **Radioactive contaminants**, can be naturally occurring or be the result of oil and gas production and mining activities.

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 US Environmental Protection Agency (EPA) Safe Drinking Water Hotline (1-800-426-4791.)

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 from their health care providers. EPA/Centers for Disease Control and Prevention (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).

In order to ensure that tap water is safe to drink, the Department of Environmental Protection (MassDEP) and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Massachusetts Department of Public Health (DPH) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

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*~ CROSS CONNECTION CONTROL AND PREVENTION ~*

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Cross connections are the links through which it is possible for contaminating materials to enter a potable water supply. The contaminant enters the potable water system when the pressure of the polluted source exceeds the pressure of the potable source. The action may be called backsiphonage or backflow. Essentially it is reversal of the hydraulic gradient that can be produced by a variety of circumstances. A cross connection is an actual or potential connection between a drinking water pipe and a polluted source. The pollution can come from your own home. Using a backflow prevention device on your hose connection when washing your car, for example, can prevent backsiphonage of car wash chemicals into a water supply.

Madden Estates recommends the installation of low-cost hose bibb vacuum breakers for all inside and outside threaded spigots and hoses. You can purchase them at a hardware store or plumbing supply store. This is a great way to help protect the water system that serves your home and community!

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*~ IMPORTANT DEFINITIONS ~*

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**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.

**Secondary Maximum Contaminant Level (SMCL)** – These standards are developed to protect aesthetic qualities of drinking water and are not health-based.

**Office of Research and Standards Guideline (ORSG)** – This is the concentration of a chemical in drinking water, at or below which, adverse health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

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

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

**90<sup>th</sup> Percentile** – Out of every 10 homes sampled, 9 were at or below this level. This number is compared to the action level to determine lead and copper compliance.

**ppm** = parts per million, or milligrams per liter (mg/l)

**ppb** = parts per billion, or micrograms per liter (ug/l)

**pCi/l** = picocuries per liter (measure of radioactivity)

**ND** = Not Detected

**N/A** = Not Applicable

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## *DISTRIBUTION SYSTEM WATER QUALITY*

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The quality information presented in the tables below is from the most recent round of testing done in accordance with the regulations. All data shown was collected during the last calendar year unless otherwise noted in the tables.

Lead & Copper	Last Date Collected	* 90 <sup>th</sup> Percentile	Action Level (AL)	MCLG	# of sites sampled	# of sites above Action Level	Exceeds Action Level	Possible Sources of Contamination
Lead (ppb)	8/9/17	0	15	0	5	0	N	Corrosion of household plumbing; erosion of natural deposits
Copper (ppm)	8/9/17	.0025	1.3	1.3	5	0	N	Corrosion of household plumbing; erosion of natural deposits; leaching from wood preservatives.
<p>*9 out of every 10 sites sampled were at or below this level. Lead and copper compliance is determined by comparing the 90<sup>th</sup> percentile value to the Action Level (AL) for each contaminant. The AL is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.</p> <p>Lead and copper sampling is scheduled every three years. The last samples collected were in August, 2017 and the next sample collection will be during Quarter 3 of 2020.</p>								

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. Madden Estates 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 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>.

## DISTRIBUTION SYSTEM WATER QUALITY (continued)

Regulated Contaminants	Date Collected	Highest Result or Highest Avg	Range detected	MCL	MCLG	Violation (Y/N)	Possible Sources
<b>Inorganic Contaminants</b>							
Nitrate (ppm) (annual)	5/20/19	.129	0-.129	10	10	N	Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits
Fluoride (ppm)	5/21/18	.949	N/A	4	4	N	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
<b>Radioactive Contaminants</b>							
Gross Alpha (pCi/L)	5/20/19, 6/17/19	1.19	.126-1.19	15	N/A	N	Erosion of natural deposits
Radium 226 (pCi/L)	5/20/19	.865	.843-.865	5	N/A	N	Erosion of natural deposits
Radium 228 (pCi/L)	5/20/19	.511	.119-.511	5	N/A	N	Erosion of natural deposits
- Gross Alpha Particle Activity was sampled in 2019. Next sampling due in 2022. - Radium 226 & Radium 228 were sampled in 2019. Next sampling due in 2022. - Volatile Organic Contaminants (VOCs) were sampled in May 2019. <u>VOCs were non-detected.</u> Next sampling due in 2020. - Synthetic Organic Contaminants (SOCs) were sampled in February 2019. <u>SOCs were non-detected.</u> Next sampling due in 2022.							
*Unregulated Contaminants	Last Date Collected	Result or Range Detected	SMCL (ppb)	ORSG	Possible Sources		
Iron (ppb)	5/20/19	0.00	300	--	Naturally occurring, corrosion of cast iron pipes		
Manganese** (ppb)	5/20/19	3-47	50	Health advisory of 300 ppb	Erosion of natural deposits		
Sodium*** (ppm)	5/21/18	20.4	N/A	20	Discharge from the use & improper storage of sodium-containing de-icing compounds or in water-softening agents.		
Methyl tertiary butyl ether (ppb)	5/20/19	51	17	20-40	Discharge from the use and improper storage of sodium-containing de-icing compounds or in water softening agents.		
Conductivity	8/9/17	140-170	N/A	N/A			
- *Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist US EPA in determining their occurrence in drinking water and whether future regulation is warranted. - **US EPA and MassDEP have established public Health Advisory (HA) levels for manganese to protect against concerns of potential neurological effects and a one-day and 10-day HA of 1000 ppb for acute exposure. - *** <u>Sodium</u> : Some people who drink water containing sodium at high concentrations for many years could experience an increase in blood pressure.							

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~ EDUCATIONAL INFORMATION ~

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***SWAP (Source Water Assessment and Protection) ~***

MassDEP has prepared a Source Water Assessment Program (SWAP) Report for the Nanatomqua Cooperative Corp. The report assesses the susceptibility of public water supplies to contamination and makes recommendations.

A susceptibility ranking of moderate was assigned to this system using the information collected during the assessment by MassDEP.

The complete SWAP Report is available at Nanatomqua Office and online at <https://www.mass.gov/eea/docs/dep/water/drinking/swap/cero/2045001.pdf> . For more information, call Dick Turnbull (508)-867-6392.

***Opportunities to Participate ~***

Any matters that concern your drinking water supply or issues you would like to see addressed can be presented at the regularly scheduled meeting of the trustees, association or board. If your concerns need immediate attention contact System Owner, Nanatomqua Office at 508-867-6392.

***Water System Improvements ~***

Our water system is routinely inspected by MassDEP for its technical, financial and managerial capacity to provide safe drinking water to you. In 2018, the PWS replaced the 1,000-gallon hydropneumatics tank located in Pump House #3, the MassDEP approved activation of the tank in 2019. The PWS continues to monitor the water and make adjustments when necessary.

**Nanatomqua Cooperative Corp.  
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Brookfield, MA 01506  
#508.867.6392**

*Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.*

**Date Distributed: July 1, 2020**

For more information please contact:

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This report was prepared by McClure Engineering, Inc.

Also available at <http://www.mcclureengineers.com/>

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**IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER**