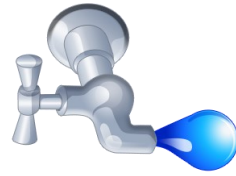


# City of Vassar

2019 Annual  
Drinking Water  
Quality Report



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PROVIDED BY THE WATER DEPARTMENT

The City of Vassar is pleased to present to you this year's Annual Water Quality Report, for the January 1st thru December 31st of 2019 sampling period. This report is designed to inform you about the quality of the water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources

We are committed to ensuring the quality of your water. Our water source is from four wells, located in the city limits, of bedrock formation, not from the Cass River.

The Source Water Assessment is a process that factors geologic and water well attributes, water chemistry, and potential for contaminant sources for each drinking water source into a ranking system to determine the relative potential for contamination. This assessment is required by the Michigan Source Water Assessment Program under the provisions of the 1996 amendments to the Federal Safe Drinking Water Act. Susceptibility determination by the Michigan Department of Environmental Quality is high for well #1, moderately high for well #6 and moderate for well #7. **Copies of the Source Water Assessment are available at City Hall and at the Department of Public Works.**

Tritium water samples were taken in 1995, 1996 and confirmation sampling in 1999, 2002, 2005, 2008, 2011, 2014 and 2018. From the results, less than 0.67 Pc/L, for the Tritium samples, the Michigan Department of Environmental Quality has classified Vassar wells, as "not vulnerable".

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

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made.

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 city council meetings. Meetings are held on the 1st Monday of each month, at 7 P.M.

These substances can be:

**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, 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, urban storm water runoff, 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 storm water runoff, and septic systems.

All drinking water including bottled water, may reasonably be expected to contain at least small amount 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)**.

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. In order to ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public utilities.

The City of Vassar routinely monitors for contaminants in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1st to December 31, 2019

In this brochure we provide a table that contains many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

**Not-Detected (ND)**- laboratory analysis indicates that the constituent is not present.

**Parts per million (ppm) or Milligrams per liter (mg/l)**- one part per million corresponds to one minute in two years or a single penny in \$10,000.

**Parts per billion (ppb) or Micrograms per liter**– one part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000.

**Picocuries per liter (pCi/L)**- picocuries per liter is a measure of the radioactivity in water.

**Action Level**- the concentration of a contaminant, which, if exceeded, triggers treatment or other requirements, which a water system must follow.

**Maximum Contaminant Level** - The "Maximum Allowed" (MCL) is 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** - The "Goal" (MCGL) is 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.

**N/A** - Not Applicable

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 of the data is representative of the water quality, but some are more than one year old. The table in this brochure represents the most current testing information available.

| <b>Radioactive Contaminants Radium was tested on November 30, 2017</b> |               |                        |                 |                   |      |     |                                |
|------------------------------------------------------------------------|---------------|------------------------|-----------------|-------------------|------|-----|--------------------------------|
| Contaminant                                                            | Violation Y/N | Highest Level Detected | Unit of Measure | Range             | MCGL | MCL | Likely Source of Contamination |
| Alpha emitters +                                                       | N             | 2.8                    | pCi/1           | Low-1.6<br>Hi-3.8 | 0    | 15  | Erosion of natural deposits    |
| Combined Radium +                                                      | N             | 1.0                    | pCi/1           | Low-ND<br>Hi-1.0  | 0    | 5   | Erosion of natural deposits    |

| <b>Regulated Contaminants</b>                                                   |               |                        |                 |       |      |       |                                                                                     |
|---------------------------------------------------------------------------------|---------------|------------------------|-----------------|-------|------|-------|-------------------------------------------------------------------------------------|
| Contaminant                                                                     | Violation Y/N | Highest Level Detected | Unit of Measure | Range | MCLG | MCL   | Likely Source of Contamination                                                      |
| Antimony<br>8/13/2013 test date of the most recent test available               | N             | ND                     | ppm             | N/A   |      | 0.006 | Discharge from petroleum refineries, fire retardants; ceramics; electronics; solder |
| Barium<br>8/13/2013 test date of the most recent test available                 | N             | 0.09                   | ppm             | N/A   |      | 2     | Discharge from metal refineries; erosion of natural deposits                        |
| Chromium<br>8/13/2013 test date of the most recent test available               | N             | ND                     | ppm             | N/A   | 0.1  | 0.1   | Discharge from steel and pulp mills; erosion of natural deposits                    |
| Fluoride<br>8/28/2019 test date of the most recent test available               | N             | 1.10                   | ppm             | N/A   | 4    | 4     | Erosion of natural deposits                                                         |
| Selenium<br>8/13/2013 test date of the most recent test available               | N             | ND                     | ppm             | N/A   | 0.05 | 0.05  | Discharge from petroleum and metal refineries; erosion of natural deposits;         |
| Thallium<br>8/13/2013 test date of the most recent test available               | N             | ND                     | ppm             | N/A   |      | 0.002 | Leaching from ore-processing sites; discharge from electronics, glass,              |
| Total Trihalomethanes<br>8/28/2019 test date of the most recent test available  | N             | 0.034                  | ppm             | N/A   |      | 0.080 | By product of drinking water chlorination                                           |
| Total Haloacetic Acids<br>8/28/2019 test date of the most recent test available | N             | 0.004                  | ppm             | N/A   |      | 0.060 | By-product of drinking water chlorination                                           |

| <b>Other Contaminants</b>        |                        |                                 |                 |                                                                                               |
|----------------------------------|------------------------|---------------------------------|-----------------|-----------------------------------------------------------------------------------------------|
| Contaminant                      | Average level detected | State Maximum Contaminate Level | Unit of measure | Likely source of contamination                                                                |
| Iron<br>8/28/2019                | 0.4                    | N/A                             | ppm             | Natural occurring in groundwater.                                                             |
| Nitrate as Nitrogen<br>8/28/2019 | ND                     | 10                              | ppm             | Run-off from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits. |
| Hardness as CaCO3<br>8/28/2019   | 217                    | N/A                             | ppm             | Natural occurring element in water.                                                           |
| Nitrite as Nitrogen<br>8/28/2019 | ND                     | 1                               | ppm             | Run-off of fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.   |
| Sodium<br>8/28/2019              | 110                    | Range<br>Low 29-Hi 175          | ppm             | Erosion of natural deposits.                                                                  |
| Sulfate<br>8/28/2019             | 62                     | Low 22-Hi 87                    | ppm             | Erosion of natural deposits.                                                                  |

| <b>Lead &amp; Copper Distribution Monitoring Results</b> |             |                        |                 |                        |                                   |                                          |
|----------------------------------------------------------|-------------|------------------------|-----------------|------------------------|-----------------------------------|------------------------------------------|
| Contaminant                                              | Date Tested | Number of sites tested | 90th Percentile | # of Sites over Action | Action level/units of measurement | Likely Source of Contamination           |
| Lead                                                     | 8/15/2017   | 10                     | 4.0 ppb         | 0                      | 15 ppb                            | Corrosion of household plumbing systems, |
| Copper                                                   | 8/15/2017   | 10                     | 0.10 ppm        | 0                      | 1.3 ppm                           | Corrosion of household plumbing systems; |

Chlorine: 2019 chlorine residuals  
 Running annual average: 0.51 mg/l  
 Maximum: 2.08 mg/l September 24, 2019  
 Minimum: 0.03 mg/l May 16, 2019

**Arsenic:** is Not Detected (ND) on Vassar water samples. Last samples taken in 8/13/2018.

**Lead:** If present, elevated levels 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. City of Vassar 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 at 1-800-426-4791 or at <http://water.epa.gov/drink/info/lead>.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as person 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. EPA/CDC 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)**.

On 10/15/2018 the DEQ tested all of the city's well sites for PFOS and PFOA. The results showed that the water did not contain either PFOS or PFOA.

