



2018 Water Quality Report

This report covers the drinking water quality for City of Petoskey for the 2018 calendar year. This information is a snapshot of the quality of the water that the City provides. 658,751,000 gallons of water were produced for the water system. 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 7 groundwater wells. 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 MDEQ completed an assessment of the City of Petoskey source water in 2015. A determination of sensitivity and susceptibility to contamination was made by reviewing the City's source water geology, well construction, water chemistry, and potential contaminant sources near the wells. The Department of Environmental Quality has determined in that report the City's wells have a low to moderate susceptibility to contamination. This report is available upon request.

Well	Depth of Well in feet	Geological Sensitivity
WL002	258	Moderate Low
WL004	405	Low
WL010	460	Low
WL008	565	Moderate
WL009	565	Moderate Low
WL011	542	Moderate Low
WL012	537	Moderate Low

There are no significant sources of contamination in the City's water supply. The City is making efforts to protect our sources. The City along with the MDEQ have completed the delineation study in 2015.

If you would like to know more about the report, please contact Jason Berndt of the Michigan Department of Environmental Quality. Jason can be reached by email at Berndtj1@michigan.gov.

Contaminants and their presence in water

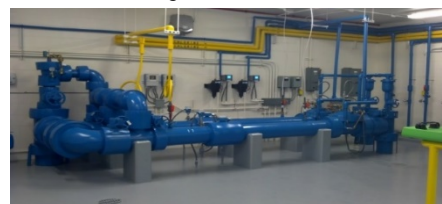
Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling 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 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. 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. 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.



2018 participants inside the tower as part of the College for Kids program.



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

Table 1 lists all the drinking water contaminants that we detected during the 2018 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, 2018. The State allows the City 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 below help to understand tables:

- 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. If needed the City of Petoskey will chlorinate and issue any notice needed.
- N/A: Not applicable
- ND: Not detectable at testing limit
- ppb: parts per billion or micrograms per liter
- ppm: parts per million or milligrams 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.

Table 1

REGULATED CONTAMINANT	MCL, TT, or MRDL	MCLG or MRDLG	Level Detected	Range	Year Sampled	Violation Yes / No	Typical Source of Contaminant
Inorganic Contaminants							
Arsenic (ppb)	10	0	ND	ND	2015	N	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2	2	0.09	ND to 0.09	2015	N	Discharge of drilling wastes; Discharge of metal refineries; Erosion of natural deposits
Nitrate (ppm)	10	10	0.21	0.05 to 0.21	2018	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Fluoride (ppm)	4	4	1.6	0.96 to 1.6	2018	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Sodium ¹ (ppm)	N/A	N/A	38	10 to 38	2018	N	Erosion of natural deposits
THM - Total Trihalomethanes (ppb)	80	N/A	15	15	2018	N	Byproduct of drinking water disinfection
HAA5 Haloacetic Acids (ppb)	60	N/A	3	3	2018	N	Byproduct of drinking water disinfection
Chlorine ² (ppm)	4	4	1.1	0.6 to 1.5	2018	N	Water additive used to control microbes
Alpha emitters (pCi/L)	15	0	3.6	ND to 3.6	2015	N	Erosion of natural deposits
Combined radium (pCi/L)	5	0	ND	ND	2018	N	Erosion of natural deposits
Total Coliform (total number or % of positive samples/month)	TT	N/A	1	1	2018	* Y (see attached notice)	Naturally present in the environment
Inorganic Contaminant Subject to AL	Action Level	MCLG	Your Water³	Range of Results	Year Sampled	Number of Samples Above AL	Typical Source of Contaminant
Lead (ppb)	15	0	3.8	ND to 6	2018	N	Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits
Copper (ppm)	1.3	1.3	0.49	0.1 to 0.58	2018	N	Corrosion of household plumbing systems; Erosion of natural deposits;

1. ¹ Sodium is not a regulated contaminant.

2. ¹ The chlorine "Level Detected" was calculated using a running annual average.

3. ¹ Ninety (90) percent of the samples collected were at or below the level reported for our water.

* The City of Petoskey does routine samples of our drinking water weekly. These samples are used to test the amount of chlorine we've added for disinfection and then we do a test to determine whether our water has any bacteria in the water. On August 13, 2018 a water operator sampled one of the routine sample sites. The test for a chlorine residual showed that our chlorine residual was in the acceptable range. This test has immediate results. This means the presence of bacteria is unlikely. The operator performed the second test taking the sample for bacteria. The test for bacteria requires 24 hours to complete the testing cycle. On August 14, the bacteria test indicated a positive presence for bacteria. As required we immediately called the MDEQ drinking water division and reported the results. We are required to resample immediately, which we did. This is a repeated sample, which after 24 hours was negative for bacteria. While our operator resampled the location, he tested for chlorine which again was within the acceptable range, then he collected the bacteria sample. Since the chlorine results for the two days were within our normal operating range, we began investigating the site. This investigation is completed by a Supervisor. During the investigation the Supervisor reviews the sample location, the sampling procedure and sampling event from the day before. On August 13 during the sampling period lawn maintenance was occurring on the site. The operator had left the door open when he was sampling the water. This was a sampling error on behalf of the operator. All other parts of the investigation did not find any other explanations to the positive sample. We reviewed our findings with the MDEQ and they concurred with our findings.

As part of the response to this positive sample, the MDEQ requires all wells that have produced water within the last 72 hours be sampled for bacteria. Our drinking water staff sampled the well fields and the wells within the fields. One of our wells was not sampled that produced water within that time frame. At no time was the drinking water supply compromised. The drinking water was safe to drink and met all the other requirements under the Safe Drinking Water Act 399. A required notice of violation for not sampling that well is attached to this report. To ensure this does not happen again, we have modified our sampling plan with MDEQ's approval. If you have any questions, please contact Sherrie Elliott at 231-347-2500.

Additional Monitoring

Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. Monitoring helps the U.S. EPA determine where certain contaminants occur and whether regulation of those contaminants is needed.

Unregulated Contaminant Name	Average Level Detected	Range	Year Sampled	Comments
PFOS+PFAS (ppt)	ND	ND	2018	See below

The City of Petoskey had all well fields tested for PFOS (perfluorooctanesulfonic acid) and PFAS (perfluorooctanoic acid) which are unregulated contaminants but are emerging as contaminants of concern. None of the contaminants were found to be in our source water but, to ensure the safety of your drinking water, the City of Petoskey will continue to monitor our water for these contaminants. If you have any questions about these contaminants you can visit www.michigan.gov/pfasresponse.

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. City of Petoskey 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 in excess of 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 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.

Monitoring and Reporting to the Department of Environmental Quality (DEQ) 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 2018.

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 City Hall upon request. This report will not be sent to you.

We invite public participation in decisions that affect drinking water quality. City of Petoskey Council meetings are held on the first and third Mondays of each month. These meetings are held at City Hall located at 101 East Lake Street, Petoskey, MI 49770. Please refer to the City's website for any information on those meetings. For more information about your water, or the contents of this report, email waterquality@petoskey.us or contact Sherrie Elliott or Martin Flynn in the City of Petoskey Water Division at 231 347-2500 . For more information about safe drinking water, visit the U.S. EPA at <http://www.epa.gov/safewater/lead>.

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Monitoring Requirements Not Met for the City of Petoskey

*We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. We did not complete all monitoring requirements following a total coliform positive sample result. However, this violation **does not** pose a threat to your supply's water.*

What happened? What is being done?

We took our required monthly routine bacteriological sample on August 13, 2018. We were notified that the sample was total coliform positive on August 14, 2018. Within 24 hours, we are required to collect at least one groundwater source sample from each groundwater source in use at the time the total coliform positive sample was collected. However, we inadvertently missed monitoring one groundwater source within 24 hours. We collected the missing required groundwater source sample on September 19, 2018. This sample was negative for total coliform bacteria. We are making efforts to assure this does not happen again. We have already returned to compliance.

What should I do?

There is nothing you need to do at this time. This is not an emergency. You do not need to boil water or use an alternative source of water at this time. The results of the sample were negative for bacteria. Even though public health was not impacted, as our customers, you have a right to know what happened and what we did to correct the situation.

For more information, please contact Sherrie Elliott at 231-347-2500 or waterquality@petoskey.us.

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.

This notice is being sent to you by the City of Petoskey.