

2014 Traverse City Water Quality Report

This report covers the drinking water quality for Traverse City Water System for the calendar year 2014 as well as an update on recent Water Treatment Plant capital improvements. This information is a snapshot of the quality of the water that we provided to you in 2014. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards.

Your water is surface water and comes from the East arm of Grand Traverse Bay. The State performed an assessment of our source water in 2004. A determination of sensitivity and susceptibility to contamination was made by reviewing our source water geology, intake location, water chemistry, and potential contaminant sources within the source water area. The State has determined that our source water has a moderate geologic sensitivity with a moderate susceptibility to contamination. A copy of this report, Source Water Assessment Report for the City of Traverse City Water Supply April 2004 may be reviewed on the City of Traverse City website www.traversecitymi.gov or by contacting the Traverse City Utility Accounting Office at the Governmental Center located at 400 Boardman Avenue, Traverse City, MI 49684.

- **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 **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. 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).
- **Sources of drinking water:** The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Our water comes from Lake Michigan. 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.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount 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.

LT2 Rule

The EPA has created the Long Term 2 Enhanced Surface Water Treatment Rule for the sole purpose of reducing illness linked with the contaminant Cryptosporidium and other disease-causing microorganisms in drinking water. The rule has bolstered existing regulations and provides a higher protection level of your drinking water supply.

Sampling of our water source has shown the following:

It is important to note that these results are from our raw water source only and not our treated drinking water supply.

Cryptosporidium: (1) Cryptosporidium cyst in one 10 liter volume raw water sample out of 24 samples tested, dated January 12, 2010.

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100% removal. Our monitoring indicates the presence of these organisms in our source water and/or finished water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause the disease, and it may be spread through means other than drinking water.

Water Quality Data

The table below lists all the drinking water contaminants that were detected during the 2014 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, 2014 to December 31, 2014. The State allows monitoring 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.

Terms and abbreviations used below:

- **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. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- **N/A:** Not Applicable
- **ppb:** parts per billion or micrograms per liter
- **ppm:** parts per million or milligrams per liter
- **Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Regulated Contaminant	MCL	MCLG	Level Detected	Range	Year Sampled	Violation Yes / No	Typical Source of Contaminant
Fluoride (ppm)	4	4	0.69	N/A	2014	No	Erosion of natural deposits. Water additive that promotes strong teeth.
TTHM - Total Trihalomethanes (ppb)	80	N/A	18.2	12.7 – 22.6	2014	No	Byproduct of drinking water disinfection
HAA5 Haloacetic Acids (ppb)	60	N/A	6.3	5.0 – 7.0	2014	No	Byproduct of drinking water disinfection
Chlorine (ppm)	MRDL	MRDLG	0.48	0.41 – 0.57	2014 Weekly	No	Water additive used to control microbes
	4	4					
Special Monitoring and Unregulated Contaminant *			Level Detected	Range	Year Sampled	Typical Source of Contaminant	
Sodium (ppm)			9.3	N/A	2014	Erosion of natural deposits	
Sulfate (ppm)			26	N/A	2014	Erosion of natural deposits	
Chromium-6 (ppb)			0.27	0.21 – 0.27	2014	Erosion of natural deposits	
Chromium (ppb)			0.51	0.46 – 0.51	2014	Erosion of natural deposits	
Vanadium (ppb)			0.57	0.49 – 0.57	2014	Erosion of natural deposits	
Molybdenum (ppb)			1.0	<1.0 – 1.0	2014	Erosion of natural deposits	
Strontium (ppb)			124	117 – 124	2014	Erosion of natural deposits	
Chlorate (ppm)			0.113	0.111–0.113	2014	Byproduct of drinking water disinfection	
Contaminant Subject to AL	Action Level	MCLG	90% of Samples ≤ This Level **		Year Sampled	Number of Samples Above AL	Typical Source of Contaminant
Lead (ppb)	15	0.0	0.0		Summer 2014	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	1.3	1.3	0.152		Summer 2014	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

* 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.

** Comprehensive results of the Regional Traverse City calculated from combined results of the City of Traverse City, Peninsula, Elmwood and Garfield Townships since the City of Traverse City Water Treatment Plant supplies water to all sampled sites.

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. The Traverse City Water Plant 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 <http://www.epa.gov/safewater/lead>.

Terms and abbreviations used below:

- **Nephelometric Turbidity Units (NTU):** The measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

Samples collected at the Water Plant

Regulated Substance	MCL/ MCLG	Limit	Range Detected	Sample Date	Violation Yes / No	Typical Source of Contaminant
Turbidity (NTU)	TT	≤ 0.1***	0.04 - 0.07	Daily	No	Soil Runoff
Turbidity lowest monthly percentage of samples meeting limit	TT	N/A	100%	Daily	No	Soil Runoff

*** 95% of samples less than or equal to this level

Monitoring and Reporting Requirements: The State and EPA require us to test our water on a regular basis to ensure health safety. We met all the monitoring and reporting requirements for 2014.

We will update this report annually and will keep you informed of any problems occurring throughout the year, as required. Copies are available at the Traverse City Water Plant at 2010 Eastern Avenue, the Governmental Center at 400 Boardman Avenue, and the Department of Public Services Building at 625 Woodmere Avenue in Traverse City.

We invite public participation in decisions that affect drinking water quality. City Commission meetings are conducted on the first and third Mondays of each month in the Commission Chambers of the Governmental Center at 400 Boardman Avenue, public comment is welcome. For more information about your water, or the contents of this report, contact Arthur J. Krueger / Water Plant Supt. at 231-922-4920 or email at akrueger@traversecitymi.gov. For more information about safe drinking water, visit the U.S. Environmental Protection Agency at www.epa.gov/safewater/.

Water Treatment Plant Capital Improvements: In 2014, the City completed approximately \$245,000 in capital improvements at the Water Treatment Plant to further protect public health, safety and welfare and also enhance water treatment reliability. These projects included completion of the emergency filter repair on two of the five filters, replacement of two rapid mixers on the coagulant chemical feed system and replacement of one sump pump in the wash water lagoon discharge system. The City also completed a Water System Reliability Study with the assistance of an engineering consultant, which specifically addressed short and long-term capital improvement projects required at the Water Treatment Plant and the water distribution system over the next 20 years. A consulting engineer also assisted the City in designing a \$1.1 million Water Plant Monitoring and Controls Improvement Project with a proposed construction completion date of April 2016. This project will replace original (1965) equipment including valves on the three filters, the filter back wash pump and high service piping as well as replace three plant master meters. It also will modernize the water plant control and monitoring system by installing a state of the art Supervisory Control and Data Acquisition (SCADA) system and improve communication between the water plant and the two City reservoirs. Other completed maintenance projects included the underwater inspection and cleaning of the raw water intake crib structure and the repair of two flocculation tank mixer motors along with security system upgrades at the water plant and two remote sites.