



ANNUAL
**DRINKING WATER
QUALITY REPORT**
OF THE
City of Charlevoix Water Supply

January 2009

Here is this year's Annual Quality Water Report.

It is designed to inform you about the quality drinking 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. 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.

Our water comes from Lake Michigan, considered *surface water*. The State has performed an assessment of our source water in 2004. A determination of sensitivity and susceptibility to contamination was by made reviewing our source water geology, water chemistry, and potential contamination sources nearby the lake. The State has determined that our source water has a moderate sensitivity rating along with a moderate susceptibility to contamination. You may obtain a copy of the State report by contacting the City of Charlevoix Water Treatment Plant.

We are pleased to report that your drinking water is safe and meets all State and Federal requirements.

This report is a snapshot of the quality of the water we provided to you in the year **2008**. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and State of Michigan standards.

If you have any questions about this report or concerning your water utility, please contact Jim Caldwell at the ***Charlevoix Water Treatment Plant***, (231) 547-3256, or Don Swem at the ***Charlevoix Water Department***, (231) 547-3273. We want our valued customers to be informed about their water utility. The City of Charlevoix Water Supply routinely monitors for contaminants in your drinking water according to *Federal and State Laws*.

This report shows the results of our monitoring for the period of **January 1 thru December 31, 2008**. *All* drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

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 run-off, 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 are naturally occurring.

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.

The State of Michigan and Environmental Protection Agency require us to test our water on a regular basis to ensure its safety.

We met all monitoring requirements for the year 2008.

Charlevoix Water Treatment Plant and Distribution System personnel sampled and tested for over 100 contaminants that were NOT detected in our water supply. The following constituents were detected at low but safe levels, well below the MCL (Maximum Contaminant Level)

In the following tables you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

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) - A pico equals one part per trillion; the measurement of radiation in water.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

Treatment Technique (TT) - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level (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 - (MCLG) 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.

NA: not applicable

ND: not detectable at testing limit

Inorganic Contaminants	MCLG	MCL	<i>SYSTEM WATER</i>	Range of detections	Sample date	Violation	Typical Source of Contaminant
Fluoride (ppm)	4	4	1.4	NA	2008	No	Erosion of natural deposits.
Barium (ppm)	2	2	0.0200	NA	2008	No	Erosion of natural deposits.
Turbidity (NTU)	2	TT	0.040	0.030 – 0.070	2008	No	Erosion of natural deposits.
Radionuclides							
Gross Alpha (pCi/l)	0	15	1.5	ND – 1.5	2000	No	Erosion of natural deposits.
Combined Radium	0	5	1.0	1.0	2000	No	Erosion of natural deposits.
Chlorine	MRDLG	MRDL	Quarterly Average				
Total Chlorine (ppm)	4	4	0.34	0.04 to 0.55	2008	No	Water additive used to control microbes
Disinfection Byproducts							
Total Trihalomethanes [TTHMs] (ppb)	NA	80	16.0	NA	2008	No	Disinfection Byproducts
Haloacetic Acids (HAA5) (ppb)	NA	60	7.0	NA	2008	No	Disinfection Byproducts
Lead/Copper	MCLG	AL	90th %ile				
Lead (ppb)	0	15	2	ND – 5	2006	No	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	1.3	1.3	0.080	ND – 0.430	2006	No	Corrosion of household plumbing systems.
Unregulated Contaminants							
Sodium (ppm)	NA	NA	9	NA	2008	NA	Erosion of natural deposits
Sulfate (ppm)	NA	NA	29	NA	2008	NA	Erosion of natural deposits.

***Lead and Copper - Lead and copper testing is on a three (3) year schedule, test results reported here are from the 2006 year; next round of testing is year 2009.*

NOTES:

** Turbidity - turbidity is a measure of the cloudiness of the water. We monitor it because it is an indicator of our filtration system.*

Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

We're pleased that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water is SAFE at these levels.

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

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 microbiological contaminants are available from the **Safe Drinking Water Hotline (800-426-4791)**

Call us if you have any questions.

About our system. . . .

The **City of Charlevoix** operates a Direct Filtration Water Treatment Facility which uses water from Lake Michigan. With a capacity of 3 million gallons per day, water enters the plant through a submerged intake structure. Storage includes a one million gallon above ground reservoir at the plant, and a 300,000 gallon elevated tank (water tower) on Charlevoix's north side. The City has approximately 32 miles of distribution lines serving approximately 5,000 customers in the City of Charlevoix and areas of adjoining Charlevoix Township, as well as, the influx of summer visitors to the area. Present flow rates vary from around 400,000 gallons per day in the winter to as much as 2.5 million gallons per day in the summer. In service since 1987, it is a modern, efficient facility staffed by licensed, well trained operators. Charlevoix is continually improving its distribution system assuring fresh water and adequate pressure throughout our entire service area. An electrical generator at the Water Plant assures normal operation at full capacity in the event of an electrical power loss to the City. We at the Charlevoix Water Treatment Plant and Distribution System work around the clock to provide top quality water to every tap.

Please help us protect our water resources, which are the heart of our community, our way of life, and our children's future.