

City of Big Rapids



Water Quality Report

June 2009

Quality on Tap

The Big Rapids water supply system provides residents of the City of Big Rapids and parts of Big Rapids Township with high-quality drinking water, drawn from four groundwater wells at Roben-Hood Airport. This report, as mandated by the Safe Drinking Water Act, identifies our source water and the results of our January - December 2008 water tests. Big Rapids provides quality on tap, and the results show it.

In order to ensure that every community's tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. In the same way, the Food and Drug Administration regulates bottled water to provide protection for public health.

Is our water safe?

Staff at the City of Big Rapids Water Treatment Plant routinely test for contaminants in your drinking water according to Federal and State laws. An important function of the Plant is the regular testing for over 100 possible contaminants, from Arsenic to Xylenes.

We are proud to report that in 2008, there were no violations of the Maximum Contaminant Levels established by the EPA. Your drinking water meets or exceeds all Federal and State requirements.

What are contaminants?

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 materials and, in some cases, radioactive materials. It can also pick up substances resulting from the presence of animals or from human activity.

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. Therefore 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 is available from the Safe Drinking Water Hotline (800-426-4791).

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 can result from urban stormwater runoff, industrial wastewater discharges, oil and gas production, or farming.
- Pesticides and herbicides, which may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which can be by-products of industrial processes and petroleum production or can come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

Elevated levels of lead, if present, 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 City of Big

Rapids 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 www.epa.gov/safewater/lead.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people such as people with cancer who are undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly people, 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).

What is Big Rapids doing to protect our groundwater supply?

Big Rapids has initiated a Wellhead Protection Program to study the quality of our groundwater and the steps we as a community can take to protect it.

In addition, the Michigan Department of Environmental Quality recently performed a Source Water Assessment (SWA) of the Big Rapids water system; our source water susceptibility to contamination was determined to be "moderate."

A copy of both the Wellhead Protection Plan and the Source Water Assessment can be viewed at City Hall, Department of Public Works, 226 N Michigan. A brochure explaining the Wellhead Protection Program is also available.

To learn how you can help keep our drinking water clean for generations to come, call Public Works Director Donald J. Greiner, P.E., at (231) 592-4018.

Terms

AL (Action Level)

The concentration of a contaminant that, if exceeded, triggers a treatment or other requirement which a water system must follow.

MCL (Maximum Contaminant Level)

The highest level of a contaminant that is permitted in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal)

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.

MRDL (Maximum Residual Disinfectant Level)

The highest level of a disinfectant permitted in drinking water. There is convincing evidence that addition of a disinfectant is necessary to control microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal)

The level of 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.

ppm (Parts per million)

1 ppm is like one penny out of \$10,000.

ppb (Parts per billion)

1 ppb is like one penny out of \$10,000,000.

pCi/L (Picocuries per liter)

A measure of radioactivity.

NTU (Nephelometric Turbidity Units)

Measurements of minute suspended particles.

Turbidity

A measure of the cloudiness of water. We monitor turbidity because it is a good indicator of the effectiveness of our filtration system.

Unregulated Contaminants

Substances for which the EPA has not established drinking water standards. Monitoring helps the EPA to determine where these contaminants occur and whether it needs to regulate them.

Water Quality Data

The table below shows the results of our monitoring for the period of January 1, 2008, through December 31, 2008. The Michigan Department of Environmental Quality allows us to monitor for certain contaminants less than once per year because the concentration of these contaminants is not expected to vary significantly from year to year. All of the data is representative of the water quality, even though some is more than one year old.

	Test Date	Violation (Y/N)	Level Detected	Unit of Meas.	MCLG	MCL	Likely Source of Contamination
Regulated Contaminants							
Microbiological Contaminants							
Turbidity	2008	N	Max: 0.12 NTU Lowest Monthly Average meeting limits = 100%	NTU	0	1 NTU; 99% of sam-ples less than 0.3 NTU	Soil runoff
Total Coliform Bacteria	2008	N	1		0	1 positive monthly sample (5% of monthly samples Positive)	Naturally present in the environment
Inorganic Contaminants							
Barium	2008	N	0.03	ppm	2	2	By-product of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chlorine	2008	N	Highest Monthly Ave = 1.11 Range: 0.6 to 1.6	ppm	MRDLG =4	MRDL=4	Water additive used to control microbes
Copper (90th percentile)	2008	N	0.515 ppm (90th percentile) 0 sites exceed the AL	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	2008	N	0.99	ppm	4	4	Additive that promotes strong teeth; erosion of natural deposits; by-product from fertilizer and aluminum factories
Lead (90th percentile)	2008	N	0 ppb (90th percentile) 0 sites exceeded the AL	ppb	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits
Volatile Organic Contaminants							
Haloacetic Acids (HAA5)	2008	N	18	ppb	n/a	60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM)	2008	N	15	ppb	n/a	80	By-product of drinking water chlorination
Unregulated Contaminants / Water Characteristics							
Chloride	2008	N	ND	ppm	n/a	250 ¹	Salt, naturally present
Hardness as CaCO ₃	2008	N	193	ppm	n/a	n/a	Naturally occurring minerals, controlled by water treatment process
Iron	2008	N	Highest Monthly Ave = 30 Range: 0 to 80	ppb	n/a	300 ¹	Naturally present
Manganese	2008	N	Highest Monthly Ave = 17 Range: 3 to 68	ppb	n/a	50 ¹	Naturally present
Sodium	2008	N	6	ppm	n/a	n/a	Salt, naturally present

¹ National Secondary Drinking Water Regulations: Guidance for Nuisance Controls



If you are interested in learning more about the water department and water quality, contact Water Plant Superintendent Carmen Johnson at (231) 796-6231. Should you seek more information about our water supply, the City Commission meets the first and third Mondays of each month at 7:30 p.m. in Big Rapids City Hall.

