

CITY OF SANDUSKY, MICHIGAN
Annual Drinking Water Quality Report for 2011
7/25/12

We're pleased to present to you this year's Annual Quality Water Report. This report is designed to inform you about the quality 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 five wells located within the city limits. Our wells draw from the principal bedrock aquifer, the Marshall Sandstone Aquifer, which underlies most of the thumb. These wells range in depth from 137 to 172 feet.

The State of Michigan has produced a Source Water Assessment for the City's wells. This Assessment reports the susceptibility of our water supply sources to contamination. The susceptibility score is broken down into 7 categories. Very Low, Low, Moderately Low, Moderate, Moderately High and Very High. The score, given by the State, for Well #1 is Moderately High, Well # 3 is High, Well #6 is Moderately High, Well #7 is Moderately Low, Well #9 is Moderately High. The complete Source Water Assessment is available by contacting the Water Department.

I'm pleased to report that our drinking water is safe and meets or exceeds federal and state requirements. If you have any questions about this report or concerning your water utility, please contact **Doug Kirkbride at 810-648-4641**. 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 meetings. They are held on **the first and third Monday of each month at City Hall**.

The City of Sandusky 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 31st, 2011. 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 land or underground, 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 or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose a health risk. More information about contaminants and potential health effects can be obtained by calling the United States Environmental Protection Agency's (EPA) Safe Drinking Water Hotline at 1-800-426-4791.

TERMS AND ABBREVIATIONS USED IN THE TABLES BELOW

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.

Chlorine Residuals from Distribution System							
Contaminant	Year Tested 2009	Highest level detected	Lowest level detected	Highest running Annual average	MRDL	Optimum Level of Chlorination	Likely Source of Contamination
Free Chlorine Residuals	3 samples taken each month	2.20 ppm	0.01 ppm	0.34	4 ppm	.5ppm to 1.5 ppm	Water additive used to control microbes

Lead & Copper Distribution Monitoring Results						
Contaminant	Date Tested	Number of Sites Tested	90th Percentile	# of Sites over Action Level	Action level/ units of Measurement	Likely Source of Contamination
Lead	2009	10	0 ppb	0	15 ppb	Corrosion of household plumbing systems, erosion of natural deposits
Copper	2009	10	1230 ppb	0	1300 ppb	Corrosion of household plumbing systems, erosion of natural deposits; leaching from wood preservatives

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 Sandusky 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>.

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 needs to regulate those contaminants.

Unregulated Contaminants in Water at Treatment Plant					
Contaminant	Year of Test	Unit of Measure	Average of level detected from wells	Range of level detected from wells	Likely Source of Contamination
Sodium	2011	Ppm	68	68	Erosion of natural deposits
Sulfate	2011	Ppm	68	68	Erosion of natural deposits
Unregulated Contaminants at Well # 7. (Water not used in Distribution System)					
Sodium	2011	Ppm	46	47/45	Erosion of natural deposits
Sulfate	2011	Ppm	154	154	Erosion of natural deposits

- On January 23, 2006 the MCL for arsenic was decreased to 10ppb and the MCLG will be 0. Well # 7 did not meet the January 23, 2006 deadline for the new Arsenic standard. Well # 7 is not being pumped into the distribution system. The City has constructed a building and has provided equipment to treat wells 1, 3, 6 and 9. The water from these wells is now being treated for the removal of Arsenic and is meeting the standard.

Radioactive Contaminants:

Alpha emitters. Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

Combined Radium 226/228. Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

Inorganic Contaminants:

Arsenic. While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems. Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

Copper. 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.

Fluoride. Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.

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.

Chlorine. Some people who use water containing chlorine well in excess of MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.

Volatile Organic Contaminants:

TTHMs [Total Trihalomethanes]. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

(8) Arsenic. Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

The table shows that our system uncovered a problem this year. The duration of the violation was from 2-22-11 to 3-9-11 and the potential adverse health effects for arsenic are that some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer. We have corrected this by doing an extra media cleaning of the tanks and re sampling the discharge from the arsenic plant for the improved product.

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

Radioactive contaminants, which are 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, 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 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.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Total Coliform: The Total Coliform Rule requires water systems to meet strict limits for coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public by newspaper, television or radio.

Lead: Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced.

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).

We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

Please call our office if you have questions.

Sandusky City Hall (810) 648-4444.

Sandusky Department of Public Works (810) 648-4641.

Copies of this report are available at Sandusky City Hall, 26 W. Speaker St.