

City of Frankenmuth & Frankenmuth Township's 2016 Drinking Water Quality Report

The City of Frankenmuth and Frankenmuth Township are pleased to present a summary of the water provided to you during the past year. The Safe Drinking Water Act (SDWA) requires that utilities issue an annual "Consumer Confidence" report to customers in addition to other notices that may be required by law. This report details where our water comes from, what it contains and the risks our water testing and treatment are designed to prevent. The City of Saginaw Water Treatment Plant, the City of Frankenmuth and Frankenmuth Township are committed to providing you with the safest and most reliable water supply. We are proud to report that the water provided by the City of Saginaw Water Treatment Plant, the City of Frankenmuth and Frankenmuth Township meets or surpasses all federal and State drinking water standards. Informed customers are our best allies in maintaining safe-drinking water.

Our Water Source

The City of Frankenmuth purchases treated potable water from the City of Saginaw as a wholesale customer. The City of Frankenmuth also provides potable water to Frankenmuth Township.

Source Water Assessment

Your drinking water originates from Lake Huron, one of the largest and highest quality sources of fresh water in the world. The raw water intake is near Whitestone Point (Arenac County), a location selected in the 1940's after an engineering study showed that water at this location was typical of deep Lake Huron currents, and free from influences from Saginaw Bay and nearby on-shore sources of contamination. The raw water is purchased from the Saginaw-Midland Municipal Water Supply Corporation, and travels 65 miles through reinforced concrete pipe to the Saginaw Water Treatment Plant for processing. The City of Frankenmuth then purchases treated potable water from the City of Saginaw as a wholesale customer.

In June 2004, the Michigan Department of Environmental Quality completed its assessment of the Lake Huron raw water supply and issued a Source Water Assessment report. This assessment determined our raw water supply's susceptibility to contamination. The State used a seven-tiered susceptibility rating scale from "very low" to "very high" based primarily on geological sensitivity, water chemistry and contaminant sources. The susceptibility of their raw water system was rated "moderately low". Although the threat of contamination still exists, this rating is the best a surface water source can achieve. The forethought used in selecting the location of the intake helped the raw water supply achieve its "moderately low" susceptibility rating.

If you would like to review a copy of the Source Water Assessment report, or have questions about it, please contact the City of Saginaw Water Treatment Plant at 989-759-1640.

Public Participation

We encourage public interest and participation when making decisions affecting our community's drinking water. City of Frankenmuth residents can attend regular City Council meetings held at 7:00 P.M. the 1st Tuesday of each month at the Frankenmuth City & Township Government Center, 240 W. Genesee Street. Frankenmuth Township residents can attend regular Township Board meetings held at 7:00 P.M., the 3rd Monday of each month at the Frankenmuth City & Township Government Center, 240 W. Genesee Street. The public is always welcome.

Water Monitoring

The City of Saginaw routinely monitors the City of Frankenmuth and Frankenmuth Township for contaminants in our 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, 2016. As water travels over the land or underground, it can pick up substances 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.

2016 Water Quality Results

The tables below show the results of the Saginaw Water Treatment System's water quality tests for 2016, unless otherwise noted. The State allows us to monitor for certain contaminants less than once per year because of their concentrations are not expected to change year to year. We remained in compliance with all of the monitoring and reporting requirements during 2016, and had no violations. Our water met or surpassed all State and Federal water quality and safety standards. This table does not show the numerous contaminants we tested for, but did not detect in the water.

Regulated Inorganic Parameters (*Sampled at the City of Saginaw's Finished Plant Tap*)

Parameter	Test Date	Units	MCL	MCLG	Average	Range	Violation	Likely Sources
Fluoride ¹	2016	ppm	4	4	0.79	n/a	no	Water additive to promote strong teeth
Barium	2014	ppm	2	2	0.28	n/a	no	Erosion of natural deposits

Regulated Inorganic Parameters (*Sampled within the City of Frankenmuth's distribution system*)

Parameter	Test Date	Units	MRDL	MRDLG	Average	Range	Violation	Likely Sources
Chlorine	2016	ppm	4	4	0.85	0.46 – 1.10	no	Water additive used to control microbials.

Regulated Inorganic Parameters (*Sampled within Frankenmuth Township's distribution system*)

Parameter	Test Date	Units	MRDL	MRDLG	Average	Range	Violation	Likely Sources
Chlorine	2016	ppm	4	4	0.93	0.60 – 1.10	no	Water additive used to control microbials.

Lead and Copper Monitoring for the City of Frankenmuth (*Sampled within the City of Frankenmuth's distribution system at individual taps*)

Parameter	Test Date	Units	MCL	MCLG	90 th Percentile	Likely Sources
Lead ²	2016	ppb	AL=15	0	3	Corrosion of household plumbing systems.
Copper ²	2016	ppb	AL=1300	1300	255	Corrosion of household plumbing systems.

Lead and Copper Monitoring for the Township of Frankenmuth (*Sampled within Frankenmuth Township's distribution system at individual taps*)

Parameter	Test Date	Units	MCL	MCLG	90 th Percentile	Likely Sources
Lead ²	2016	ppb	AL=15	0	3	Corrosion of household plumbing systems.
Copper ²	2016	ppb	AL=1300	1300	315	Corrosion of household plumbing systems.

Regulated Microbiological Parameters (*Sampled in the filtered water at the City of Saginaw*)

Parameter	Test Date	Units	MCL	MCLG	Average	Range	Violation	Likely Sources
Turbidity ³	2016	NTU	TT	none	0.061	0.04 – 0.19	no	Soil runoff, suspended matter in lake water

Regulated Volatile Organic Parameters - City of Frankenmuth
(Sampled within the City of Frankenmuth's distribution system)

Parameter	Test Date	Units	MCL	MCL G	Average	Range	Violation	Likely Sources
TTHM ⁴ (Total Trihalomethanes)	2016	ppb	80	none	65	31.4 -91.2	no	By-product of drinking water disinfection
HAA5 ⁴ (Haloacetic Acids)	2015	ppb	60	none	44	14-44	no	By-product of drinking water disinfection

Regulated Volatile Organic Parameters – Frankenmuth Township
(Sampled within Frankenmuth Township's distribution system)

Parameter	Test Date	Units	MCL	MCLG	Average	Range	Violation	Likely Sources
TTHM ⁴ (Total Trihalomethanes)	2016	ppb	80	none	68	33.7-94.0	no	By-product of drinking water disinfection
HAA5 ⁴ (Haloacetic Acids)	2016	ppb	60	none	36	17-50	no	By-product of drinking water disinfection

Unregulated Parameters
(Not regulated at the Federal or State Level)

Parameter	Test Date	Units	MCLG	MCL	Average	Range	Violation	Likely Sources
Sodium ⁵	2016	ppm	unregulated	unregulated	7	n/a	no	Naturally occurring

Water Quality Footnotes

1. The Saginaw Water Treatment Plant monitors and supplements the fluoride level in drinking water to maintain a level close to 0.8 ppm to promote dental health. This fits with EPA's secondary fluoride standard of 2ppm to prevent dental disease in children. The level reported above is from annual regulatory sampling. Staff members also conduct daily fluoride sampling; 2016 fluoride sampling results are as follows: average=0.77ppm; range = 0.22 - 0.88 ppm.
2. None of the samples collected exceed the lead or copper action levels.
3. Turbidity measures the cloudiness of water. Turbidity in systems that provide filtration, like Saginaw, must never exceed 1 NTU, and must not exceed 0.3 NTU in more than 95% of daily samples in any one month. 100% of our samples in 2016 achieved these requirements. This indicates that our treatment process is working effectively.
4. Averages shown for TTHM's (Total Trihalomethanes) and HAA5's (Haloacetic Acids) are the highest running annual averages calculated quarterly by location. The range shows the highest and lowest single detects from routine compliance monitoring, which are not subject to MCL compliance or violations.
5. This information is provided for those concerned with sodium in their diet; 7 ppm equals 1.66 milligrams of sodium per 8 ounce glass of water.

Terminology

N/A: Not applicable/available

Non-Detects (nd): Laboratory analysis indicates that the contaminant is not present.

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 required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level or 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. MCL's are set at very stringent levels by the State and Federal Government.

Maximum Contaminant Level Goal or 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.

Nephelometric Turbidity Unit or NTU: Measures drinking water clarity (cloudiness of water).

Maximum Residual Disinfectant Level Goal or 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.

Maximum Residual Disinfectant level or 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.

Parts per million (ppm) and parts per billion (ppb): One ppm can be equated to four teaspoons of salt in a standard 24-foot backyard pool. One ppb is like one teaspoon in an Olympic-sized pool.

TTHM's: Total Trihalomethanes

HAA5: Haloacetic Acids

2016 Long Term 2 Enhanced Surface Water Treatment Rule (LT2) Results: The Saginaw Water Plant continued conducting monthly source water monitoring for Cryptosporidium, Giardia, and E. coli in 2016. Cryptosporidium and Giardia have never been detected in our treated drinking water and Saginaw's test results have been so favorable through the years that our water was placed into the lowest and best category of the LT2 Rule, allowing us to avoid costly treatment measures. In 2016 Giardia was detected in one of our twelve monthly samples of RAW, unfiltered water (1 cyst in the 50-liter sample). Cryptosporidium and E. Coli were not detected during 2016 testing. Cryptosporidium, Giardia and other microbial pathogens come from human and animal waste. They are sometimes found in untreated surface waters (lakes, rivers, streams). The purpose of the LT2 rule is to reduce illness linked with disease-causing microorganisms in drinking water, however it is important to note that these pathogens can be spread through means other than drinking water.

Total Coliform Bacteria: In 2016, total coliform bacteria and E. coli were not detected in any routine monitoring samples collected in the distribution systems for both the City and Township of Frankenmuth.

Lead and Copper Monitoring

The City of Frankenmuth and Frankenmuth Township have remained well below the maximum level allowed for lead and copper in our drinking water. Lead and copper are not naturally present in our water and the Saginaw Treatment Plant monitors to ensure that drinking water is non-corrosive. Lead and copper compliance is based on the 90th percentile, where nine out of ten samples must be below the Action Level (AL). No sites exceeded the action limit for lead or copper. Because of our good track record we test triennial for lead and copper. The City of Frankenmuth and Frankenmuth Township have NO lead service lines in their distribution systems.

Lead in Drinking Water

Lead and copper are not naturally present in water from the Saginaw Water treatment Plant. 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 City of Frankenmuth 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 at <http://water.epa.gov/drink/info/lead/index.cfm>.

Health & Safety Information

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 Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791). The sources of drinking water (both tap water and bottled water) including rivers, lakes, streams, ponds reservoirs, springs, and wells. As water travels over the surface of the land or through ground, it dissolves naturally occurring minerals and 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 storm 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, storm-water runoff, and residential

uses.

- *Organic chemical contaminants*, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm-water runoff and septic systems.
- *Radioactive contaminants*, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide similar public health protection.

If You Have Special Health Concerns

Some people may be more vulnerable to contaminants in drinking water than is 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. Federal guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline (800-426-4791).

For Further Information

Contact the City of Frankenmuth Water Department at (989) 652-8987 for additional information. Copies of the report are available at the Frankenmuth City & Township Government Center, 240 W. Genesee Street, and at the Frankenmuth Wickson District Library 359 S. Franklin Street.