

Saginaw Region Drinking Water Quality Report

Albee Township

Village of Birch Run

Birch Run Township

Blumfield Reese Water Authority

Bridgeport Charter Township

Buena Vista Charter Township

Carrollton Township

Frankenlust Township

City of Frankenmuth

Frankenmuth Township

James Township

Kochville Township

Saginaw Charter Township

City of Saginaw

Village of St. Charles

Spaulding Township

Swan Creek Township

Taymouth Township

Thomas Township

Tittabawassee Township

City of Zilwaukee





There are several ways to reduce the potential for lead in drinking water:

- Flush faucet daily
- Flush home and clean aerators monthly
- Evaluate/update plumbing
- Add/maintain filters certified for lead removal

www.michigan.gov/ documents/deq/deq-odwmawater-cdwu-reoccupy-yourhome_524539_7.pdf Each year, the professionals who work in your local water distribution system and at the Saginaw Water Treatment Plant prepare this important report for you. Some of the information doesn't change year-to-year, but still must be included for those who may be reviewing the report for the first time. The report carefully follows federal and state regulations to provide those who drink our water with information about its quality.

Like a nutrition label on the food you eat, this report lists the regulated contents of your drinking water based on the most recent test results. Your health is important to us and we hope you will take a moment to read through this report and reach out if you have any questions.

El informe contiene informacion importate sobre la calidad del agua en su comunidad. Traduzcalo o hable con alguien que lo entienda bien.

LEAD AND COPPER RULE (LCR) UPDATE

The communities covered by this report have historically remained well under the maximum level allowed for lead or copper in drinking water systems. Because of this favorable track record, lead and copper testing was only required every three years. With changes to Michigan's Lead and Copper Rule in 2018, Saginaw and its wholesale customers are now required to conduct lead and copper testing every year, and at nearly twice as many sites. In addition, corrosion control (explained below) must now be optimized by community, not systemwide. To achieve this, community-specific, quarterly water quality optimization testing began in 2019.

When you look at the lead and copper test results for your community inside this report, it is important to note that these levels may not reflect conditions within your home or at any specific faucet. Lead and copper levels vary depending on the type of plumbing and fixtures inside your home as well as the type of materials used in service lines.



The Saginaw Water Treatment Plant uses corrosion control additives and monitors levels to deliver non-corrosive drinking water. These corrosion control additives coat the inside of all water lines and help prevent the chemical reaction between water and plumbing that causes metal release. Even with the City's reliable corrosion control program, customers are advised to do the following:

DAILY: Before using water for drinking or cooking, flush the line for 30 seconds to 2 minutes or until it is as cold as possible. If you have a lead service line, it is recommended that you flush the line for at least five minutes.

MONTHLY: Run the cold water on all faucets at the same time for at least five minutes to fully flush your pipes. Rinse out any debris from your faucet aerators (screens) and replace when clogged.

ONGOING: Review the information about replacing pre-2014 plumbing fixtures and using/properly maintaining a filter certified for lead removal at: www.michigan.gov/documents/deq/deq-odwma-water-cdwu-reoccupy-your-home 524539 7.pdf

If you remain concerned about lead in your water, visit www.saginaw-mi.com/lead.php or contact your community (see last page of this report).

2019 WATER SYSTEM IMPROVEMENTS

Ask your local water utility about projects completed in the regional distribution system.



Water Storage Tank Maintenance

The Gratiot and Aqua storage tanks were drained, cleaned, and inspected to maximize their service life



Service Line Replacement Program

A new meter is set in place as the final step when replacing the lead service line



New Isolation Valves at Remote Pump Station

New isolation valves were installed at the Frankenmuth Pump Station



Court Street Transmission Main Rehabilitation

The discharge pipe was inspected as part of rehabilitating an aging 36-inch transmission main



Filter Gallery Plaster Work and Painting

This maintenance work helps preserve the integrity of the historic filter gallery



EGLE Cooperative Filter Evaluation & Maintenance

The City served as the host site for the State's Comprehensive Filter Evaluation Training



If You Have Special Health Concerns

Some people may be more vulnerable to certain contaminants in drinking water than the general population. Immunocompromised persons such as those undergoing chemotherapy, those who have undergone organ transplants, those with HIV/ AIDS or other immune system disorders, and some elderly and infants can be particularly at risk from infections. These people should seek advice about their drinking water from their health care providers.

Federal guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available at www.epa.gov/sdwa/drinking-water-contaminant-human-health-effects-information or EPA's Safe Drinking Water Hotline, 800.426.4791.

HEALTH & SAFETY INFORMATION

Drinking water, including bottled water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily pose a health risk. For more information about contaminants and potential health effects, call the EPA's Safe Drinking Water Hotline, 800.426.4791.

The sources of drinking water (both tap 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 – in some cases radioactive materials – and can pick up substances resulting from the presence of animals or 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 occur naturally 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, urban stormwater runoff, and residential uses
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems
- Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities

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. The Food and Drug Administration's regulations establish limits for contaminants in bottled water, which must provide similar public health protection.

Contaminants tested for in 2019 with results BELOW THE LIMIT of detection

Nitrate; Nitrite; Iron; Bromoacetic Acid; Bromoform; Chloroacetic Acid; Dibromoacetic Acid; Dalapon; Benzene; Bromobenzene; Bromochloromethane; Bromomethane; n-Butylbenzene; sec-Butylbenzene; tert-Butylbenzene; Carbon tetrachloride; Chlorobenzene; Chloroethane; Chloromethane; o-Chlorotoluene; p-Chlorotoluene; Dibromomethane; 1,2-Dichlorobenzene; 1,3-Dichlorobenzene; 1,4-Dichlorobenzene; Dichlorodifluoromethane; 1,1-Dichloroethane; 1,2-Dichloroethane; 1,1- Dichloroethylene; cis-1,2 Dichloroethylene; trans-1,2 Dichloroethylene; 1,2-Dichloropropane; 1,3-Dichloropropane; 2,2-Dichloropropane; 1,1-Dichloropropene; cis-1,3 Dichloropropene; trans-1,3 Dichloropropene; Dichloromethane; Ethylbenzene; Fluorotrichloromethane; Hexachlorobutadiene; lsopropylbenzene; p-lsopropyltoluene; Methyl ethyl ketone; Methyl isobutyl ketone; Methyl-tert-butyl ether; Naphthalene; n-Propylbenzene; Styrene; 1,1,1,2-Tetrachloroethane; 1,1,2,2-Tetrachloroethane; Tetrachloroethylene; Tetrahydrofuran; Toluene; 1,2,3-Trichlorobenzene; 1,2,4-Trichlorobenzene; 1,1,1-Trichloroethane; 1,1,2-Trichloroethane; Trichloroethylene; 1,2,3-Trichloropropane; 1,2,4-Trimethylbenzene; 1,3,5-Trimethylbenzene; Vinyl Chloride; m-Xylene; o-Xylene; p-Xylene; Total Xylenes; Germanium; Manganese; Alpha-Hexachlorocyclohexane; Chlorpyrifos; Dimethipin; Ethoprop; 2-Methoxyethanol; Monochlroacetic Acid; n-Butanol; Oxyfluorfen; Total Permethrin; Profenofos; 2-Propen-1-ol (Allyl Alcohol); Tebuconazole; Tribromoacetic Acid; Tribufos (DEF); Bromide; Butylated Hydroxyanisole; Quinoline; O-Toluidine

IMPORTANT FINDINGS & REMINDERS

The fourth Unregulated Contaminant Monitoring Rule (UCMR 4): To provide a basis for future regulatory actions to protect public health, the EPA routinely requires assessment of unregulated contaminants. In this fourth round, 30 chemical contaminants are being monitored between 2018 and 2020 using analytical methods developed by EPA and consensus organizations. Detected substances from the City's 2019 monitoring period are listed in the results table.

Cyanotoxins from Algal Blooms: Testing for ten different cyanotoxins is included in UCMR 4 and none of these contaminants were detected in the City's water.

Cryptosporidium and Giardia: These two microbial pathogens, which come from human and animal waste, have NEVER been detected in our treated drinking water.

Lead and Copper Rule: There are a variety of changes to how the City of Saginaw and its wholesale customers will test for and meet the requirements of Michigan's revised Lead and Copper Rule. Please see the full discussion on this topic above or visit www.michigan.gov/egle/0,9429,7-135-3313_3675_76638----,00.html. Also note that, starting in 2025, the Action Level for lead will drop from 15 ppb to 12 ppb.

Pharmaceuticals in Water: As EPA continues to study the impact of pharmaceuticals in water supplies, please be sure to properly dispose of all medications. To find a collection center near you, call your local police department, the Saginaw County Health Department (989.758.3685), or the Drug Enforcement Agency (800.882.9539).

Per- and Polyfluoroalkyl Substances (PFAS): Saginaw's water has been tested annually for PFAS chemicals, including PFOS and PFOA, since 2017. All results have been non-detect or below the limit of detection, except for a single sample in 2019 which was subjected to an alternate testing method intended for raw water applications. The amount in that single flagged detection was 3 parts per trillion (ppt) for PFOS + PFOA, both of which have a lifetime health advisory (LHA) level of 70 ppt and are not currently subject to any regulatory enforcement. Raw water results are posted at www.michigan.gov/pfasresponse/0,9038,7-365-86510_87918-474949--.00.html or see a summary of all results at www.michigan.gov/pfasresponse to learn more about PFAS in drinking water.

In 2025, the Action Level for lead will drop from 15 ppb to 12 ppb.

Source Water Assessment *Your drinking water comes 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, a location selected in the 1940s after an engineering study showed that water at this location was typical of deep Lake Huron currents, and relatively 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 (jointly owned by the Cities of Saginaw and Midland), and travels 65 miles through reinforced concrete and ductile iron pipe to the Saginaw Water Treatment Plant for processing.

In June 2004, the Michigan Department of Environmental Quality completed its assessment of our 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 geologic sensitivity, water chemistry, and contaminant sources.

The susceptibility of our raw water 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 our 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 Saginaw Water Treatment Plant at 989.759.1640.

2019 Water Quality Test Results

The table below shows the results of water quality tests in the Saginaw Water Treatment System during 2019, unless otherwise noted. The State allows us to monitor for certain contaminants less than once per year because their concentrations are not expected to change year-to-year. Our water met or surpassed all state and federal water quality and safety standards.

parameter	test date	unit	avg	range	MRDL	MRDLG	violation	likely sources
Regulated Inorganic Parameters (sampled in the distribution system)								
Chlorine	2019	ppm	0.99	0.9-1.11	4	4	no	Water additive used to control microbials
parameter	test date	unit	avg	range	MCL	MCLG	violation	likely sources
Regulated Inorganic Parameters (sampled at the plant's finished water tap)								
Fluoride ¹	2019	ppm	0.82	na	4	4	no	Water additive to promote strong teeth
Barium	2014	ppm	0.28	na	2	2	no	Erosion of natural deposits
Regulated Microbiological Parameters (sampled in the filtered water confluence)								
Turbidity ²	2019	NTU	0.07	0.05-0.17	TT	none	no	Soil runoff, suspended matter in lake water

- 1. Saginaw 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 2 ppm to prevent dental disease in children. The level reported above is from annual regulatory sampling. City staff also conduct daily fluoride sampling. Results in 2019 were: average=0.73 ppm; range=0.24–0.83 ppm.
- 2. To determine that our treatment process is working effectively, 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 month to remain in compliance. 100% of our samples achieved these requirements in 2019.

parameter	test date	unit	avg	range	MCL/MCLG	violation	likely sources	
Unregulated Parameters (not regulated at the State or Federal Level)								
Sodium ³	2019	ppm	6	na	unregulated	no	Naturally occurring	
3. For those concerned about sodium in their diet. 6 ppm equates to 1.42 milliarams of sodium per 8 ounce glass of water.								

2019 Unregulated Contaminant Monitoring Rule (UCMR) Results						
UCMR parameters	unit	avg	range	MCL/MCLG	violation	likely sources
Total Organic Carbon (TOC) HAA9 ⁵	ppm ppb	1.4 19.2	na 17.3–21.8	none⁴/none none⁵/none	no no	Naturally present in the environment Byproducts of drinking water disinfection

- 4. Systems like Saginaw are required to measure the percentage of TOC removed monthly and to augment treatment, if necessary. In 2019, no additional TOC removal was required.
- 5. HAA9 is a grouping of nine different haloacetic acids, including the five regulated as HAA5 with an MCL of 60 and no MCLG, and four that are currently unregulated: bromochloroacetic acid, bromodichloracetic acid, chlorodibromoacetic acid and tribromoacetic acid.

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 to control microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) 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.

Parts per million (ppm), billion (ppb), and trillion (ppt) One ppm can be equated to four teaspoons of salt in a standard 24-foot backyard pool.

One ppb is like one teaspoon of salt In an Olympic-sized pool.

of a contaminant Level (MCL) The highest level of a contaminant allowed in drinking water.

MCLs are set as close to MCLGs as feasible, using the best available treatment technology. MCLs are set at very stringent levels by the state.

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.

Nephelometric Turbidity Unit (NTU) - A measure of clarity based on how much light is scattered by suspended matter in the water. The lower the NTU, the less cloudy the water.

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

Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5) - Byproducts of drinking water disinfection.

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

nd/na - Not detected/not applicable or not available.

TERMINOLOGY

Regulated Parameters (sampled in each individual community's distribution system) Village of St Charles City of Frankenmuth Village of Birch Run Tittabawassee Twp City of Zilwaukee Swan Creek Twp Buena Vista Twp Frankenlust Twp Blumfield/Reese Bridgeport Twp City of Saginaw Spaulding Twp **Taymouth Twp** Birch Run Twp Carrollton Twp Kochville Twp Frankenmuth Saginaw Twp **Thomas Twp** James Twp Albee Twp 81a TTHM (ppb) Low na High na Violations? There were no TTHM or HAA5 violations^a. HAA5 (ppb) Low na High na 0.3 0.3 0.2 0.3 Copper (ppm) 0.3 0.3 0.2 0.3 0.3 0.3 0.3 0.4 0.2 0.3 0.3 0.3 0.2 0.6 0.4 0.3 0.3 Range (low/high) 0/0.4 0.1/0.3 0.1/0.2 0.1/0.3 0/0.3 0.1/0.4 0.1/0.4 0.1/0.3 0.1/0.3 0.1/0.4 0.1/0.3 0/0.3 0/0.4 0/0.3 0/0.2 0.1/0.6 0/0.2 0.1/0.4 0.1/0.3 0.1/0.3 0.1/0.3 Sites above AL Violations? There were no Lead or Copper violations. Lead (ppb) Range (low/high) 0/1 0/1 0/2 0/3 0/6 0/70 0/14 0/60 0/8 0/1 0/3 0/4 0/21 0/8 1/2 0/2 0/2 0/3 0/4 0/2 0/7 Sites above AL Lead Serv. Lines **Unknown Material**

TTHM MCL=80 ppb MCLG=none HAA5 MCL=60 ppb MCLG=none Lead AL=15 ppb MCLG=0 Copper AL=1.3 ppm MCLG=1.3 ppm

1446 4262 2673 2423 1097

Total No. Lines

Likely sources: Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5) are byproducts created when drinking water disinfectants react with naturally-occurring materials in the water. Lead and copper occur due to the corrosion of household plumbing including fittings and fixtures. Lead also occurs due to the presence of lead service lines, which the City is in the process of replacing (learn more at www.saginaw-mi.com/lead.php). The table above shows the number of service lines with lead or unknown materials, as reported in Preliminary Distribution System Materials Inventories, due to the state on January 1, 2020.

34356 15421

4588 2746

a. Albee Township was only required to collect a single TTHM sample in 2019. The result was 81 ppb, but this is not a violation because the MCL of 80 ppb only applies to quarterly monitoring. This result did trigger the need for Albee Township to begin quarterly sampling in 2020.

Stage 2 Disinfection Byproducts (TTHM and HAA5) The results shown above are the highest locational running annual averages calculated quarterly for each community. The range shows the single highest and lowest detections during 2019 compliance monitoring.

Lead and Copper The figures above are from the 2019 coordinated test. Lead and copper compliance is based on the 90th percentile, where nine out of ten samples must be below the Action Level (AL). Of the **300+** reportable samples for lead compliance in the regional service area, only three exceeded the AL. No sites exceeded the AL for copper. Lead and copper are not naturally present in our water and the Saginaw Treatment Plant uses corrosion control additives and monitoring to ensure that drinking water is non-corrosive (to prevent the chemical reaction between water and plumbing that causes metal release).

Infants and children are considered a vulnerable subpopulation if elevated levels of lead are present in drinking water. Elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and children. Infants and children who drink water containing lead 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. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing and fixtures. Before using water for drinking or cooking, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes or until it is as cold as possible. If you have a lead service line, it is recommended that you run your water for at least 5 minutes to flush water from both your home plumbing and the lead service line. If you are concerned about lead, you may wish to have your water tested and your plumbing inspected since levels vary depending on a variety of factors. Please see page 2 for more information or contact your local water utility for details. Information on steps you can take to minimize exposure is available at water.epa.gov/drink/info/lead and from the Safe Drinking Water Hotline at 800.426.4791.

Total Coliform Bacteria In 2019, two samples tested positive for total coliform bacteria in the greater distribution system. Immediate retesting at the same site, as well as sites upstream and downstream, were negative so there was no contamination or violation and no need to boil water.

Community-Specific Results



Water Quality Questions: 989.759.1640

EPA Safe Drinking Water Hotline: 800.426.4791

Electronic Water Quality Report: www.saginaw-mi.com/ccr.php

Contacts Please consider attending meetings locally and with the City of Saginaw if you would like to comment on the decisions affecting your drinking water. Meeting times are shown below, along with the person to contact if you have questions about this report or local water projects.

Water Supplier	Meeting Schedule/Time/Location	Water Utility Contact
Albee Township	Second Tuesday, 8:00 pm, 10645 East Road	Mark Jebb, 989.770.4844
Birch Run Township	Second Tuesday, 7:00 pm, 8411 Main Street	Brad Thomas, 989.624.9773
Village of Birch Run	Fourth Monday, 7:00 pm, 12060 Heath Street	Marty Hauck, 989.624.9856
Blumfield/Reese	Third Monday, 7:00 pm, 12810 E. Washington, Reese	Tim Sheridan, 989.868.9940
Bridgeport Township	First Tuesday, 6:00 pm, 6740 Dixie Highway	Ruthann Evans, 989.777.0974
Buena Vista Township	Fourth Monday, 6:00 pm, 1160 S. Outer Drive	Charles Suchodolski 989.754.6536
Carrollton Township	Second/Last Monday, 5:30 pm, 1645 Mapleridge Road	Don Sumption, 989.754.4611 x110
Frankenlust Township	Varies, please call 989.684.3883, 3933 Patterson Road	Trevor Jacobs, 989.439.7237
City of Frankenmuth	First Tuesday, 7:00 pm, 240 W. Genesee Street	Ken O'Brien, 989.652.8987
Frankenmuth Township	Third Monday, 7:00 pm, 240 W. Genesee Street	Ken O'Brien, 989.652.8987
James Township	Second Monday, 7:30 pm, 6060 Swan Creek Road	Mark Jebb, 989.781.1353
Kochville Township	Third Monday, 7:00 pm, 3265 Kochville Road	Mike Comstock 989.792.7596 x115
City of Saginaw	Mondays, twice monthly, call 989.759.1480 for details	Paul Reinsch, 989.759.1640
Saginaw Township	Second/Fourth Mondays, 7:00 pm, 4980 Shattuck Road	Daryl Gotham, 989.791.9870
Village of St. Charles	Second Wednesday, 7:00 pm, 110 W. Spruce Street	Don Ackerman, 989.865.8287
Spaulding Township	Third Tuesday, 6:00 pm, 5025 East Road	Ed Masters, 989.777.2733
Swan Creek Township	Second Monday, 4:00 pm, 11415 Lakefield Road	Mark Jebb, 989.865.6251
Taymouth Township	Second Wednesday, 6:00 pm, 4343 Birch Run Road	A.J. Nowak, 989.624.4159 x24
Thomas Township	First Monday, 7:00 pm, 8215 Shields Drive	Rick Hopper, 989.781.0150
Tittabawassee Township	Second Tuesday, 5:30 pm, 145 S. Second Street	Ken Dey, 989.695.6517
City of Zilwaukee	Last Monday, 3:30 pm, 319 Tittabawassee Road	Eric Mahan, 989.755.0931

About the Saginaw Water Treatment Plant You receive your water from the Saginaw Water Treatment Plant, which is a not-for-profit department of the City of Saginaw, governed by Saginaw City Council. We encourage your interest in the decisions pertaining to your drinking water. Meetings are held on Mondays, twice monthly. For details or to register as a speaker, please contact the City Clerk's office at 989.759.1480.

Floyd Kloc, Mayor \mid Brenda Moore, Mayor Pro Tem

Council Members: Michael Balls | Annie Boensch | Jamie Forbes | John Milne

Bill Ostash | Autumn Scherzer | Reginald Williams II

Tim Morales, City Manager | Phillip Karwat, PE, Public Services Director

Kimberly Mason, Director of Water and Wastewater Treatment Services

