



Water Quality Report

Dear Grand Blanc Township Residents:

I am pleased to present to you our annual water quality report covering 2021.

This year's water quality report highlights the performance of Grand Blanc Township and the GCDC in delivering a high quality product for our residents to enjoy. We remain committed to protecting public health and maintaining open communication with the public about our drinking water.

Please review this report and feel confident that Grand Blanc Township has the utmost concern for your health and safety and delivers to you a safe, clean and pleasant drinking water supply.

Should you have any questions about your drinking water, please contact our offices at (810) 424-2600 or visit our web site at: www.gbtgov.com

Best Regards,

Jeffrey Sears – Director of Public Services
Gregory Boggs – Assistant Director of Public Works
Scott Bennett – Township Supervisor

In 2021, the Grand Blanc Township water system was in violation of the Michigan Safe Drinking Water Act, 1976 PA 399, as amended (Act 399) under Rule 604f, *Treatment techniques for lead and copper*, of the 1979 Administrative Code. At one sampling point, the Township failed to maintain orthophosphate levels at the minimum required value of 2.1 parts per million (ppm). Repeat sampling the subsequent week recorded levels above the minimum required value of 2.1 parts per million (ppm). The Township was in violation for a total of ten (10) days.

Opportunities for Public Participation

We encourage public interest and participation in our community's decisions affecting drinking water. Regular Board Meetings occur every other Tuesday, at 5371 South Saginaw Street, Grand Blanc, Michigan at 7:00 P.M. The public is welcome.

National Primary Drinking Water Regulation Compliance

We'll be happy to answer any questions about Grand Blanc Township and our water quality by calling (810) 424-2600. You may also visit our website <http://www.gbtgov.com>.

www.gbtgov.com

Water Source

Grand Blanc Township is supplied water from the Genesee County Drain Commissioner – Division of Water and Waste Services (GCDC-WWS) Water Treatment Plant. The water source is Lake Huron.

Additional Information

To ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food & Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. 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 for 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.

Contaminants that may be present in source waters 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 runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources including agriculture, urban stormwater runoff and residential use.
- 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 stormwater runoff and septic systems
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

How Do I Read This Chart?

It's easy! Our water is tested to assure that it is safe and healthy. These tables are based on tests conducted by Grand Blanc Township and GCDC-WWS within the last five (5) calendar years. We conduct many tests throughout the year, however, only tests that show the presence of a contaminant are shown here. The table on this page is a key to the terms used in the following tables. The column marked Highest Detected Level shows the highest test results during the year. Sources of Contaminant show where this substance usually originates.

Key to Detected Contaminants Tables		
AL	Action Level	The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.
HAA5	Haloacetic Acids	HAA5 is the total of bromoacetic, chloroacetic, dibromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.
LRAA	Locational Running Annual Average	The average of analytical results for samples at a particular monitoring location during the previous four quarters.
MCL	Maximum Contaminant Level	The highest level of contaminant that is allowed 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 contaminant in drinking water below which there is no known or expected risk to health. MCLG/s allows for a margin of safety.
MRDL	Maximum Residual Disinfectant Level	The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MRDLG	Maximum Residual Disinfectant Level Goal	The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.
n/a	Not Applicable	Does not apply.
ND	Not Detected	Result is not detectable at or below the laboratory detection level.
NTU	Nephelometric Turbidity Units	Measures the cloudiness of water.
pCi/L	Picocuries Per Liter	A measure of radioactivity.
ppb	Parts Per Billion (one in one billion)	The ppb is equivalent to micrograms per liter. A microgram = 1/1000 milligram.
ug/L	Micrograms per liter	A microgram = 1/1000 milligrams. 1 microgram per liter is equal to 1 part per billion (ppb).
ppm	Parts Per Million (one in one million)	The ppm is equivalent to milligrams per liter. A milligram = 1/1000 gram.
RAA	Running Annual Average	The average of analytical results for all samples taken during the previous twelve months.
TT	Treatment Technique	A required process intended to reduce the level of a contaminant in drinking water.
TTHM	Total Trihalomethanes	Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane and bromoform. Compliance is based on the total.
°C	Celsius	A scale of temperature in which water freezes at 0° and boils at 100° under standard conditions
>	Greater than	Mathematical symbol that denotes a value "greater than" another value.
	90th Percentile Value	The concentration of lead or copper in tap water exceeded by 10 percent of the sites sampled during a monitored period..

2021 Regulated Detected Contaminant Tables

Inorganic Chemicals - Monitoring at the Plant Finished Water Tap								
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Fluoride*	Daily	ppm	4	4	0.83	0.63-0.83	no	Erosion of natural deposits; Water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Arsenic	3-18-21	ppb	10	10	0.54	na	no	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Barium	3-18-21	ppm	2	2	0.014	na	no	Erosion of natural deposits; discharge of drilling wastes; discharge from metal refineries.

Disinfection By-Products - Monitoring in Distribution System, Stage 2 Disinfection By-Product									
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest LRAA	Range of Detection	Violation yes/no	Major Sources in Drinking Water	
Total Trihalomethanes (TTHM)	2021	ppb	n/a	80	36.9	25.2- 51.2	no	By-product of drinking water chlorination	
Haloacetic Acids (HAA5)	2021	ppb	n/a	60	20	12-31	no	By-product of drinking water disinfection	

Disinfectant Residuals - Monitoring in Distribution System									
Regulated Contaminant	Test Date	Unit	Health Goal MRDLG	Allowed Level MRDL	Highest RAA	Range of Detection	Violation yes/no	Major Sources in Drinking Water	
Total Chlorine Residual	Jan-Dec 2021	ppm	4	4	0.63	0.11-0.97	no	Water additive used to control microbes	

2021 Turbidity - Monitored every 4 hours at Plant Finished Water			
Highest Single Measurement Cannot exceed 1 NTU	Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%)	Violation yes/no	Major Sources in Drinking Water
0.08 NTU	100%	no	Soil Runoff
Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.			

2021 Microbiological Contaminants - Monthly Monitoring in Distribution System							
Regulated Contaminant	MCL, TT, or MRDL	MCLG or MRDLG	Level Detected	Range	Year Sampled	Violation Yes/No	Typical Source of Contaminant
Total Coliform (total) number or % of positive samples/month)	TT	0	n/a	n/a	2021	no	Naturally present in the environment
<i>E. coli</i> in the distribution system (positive samples)	See E.coli note [1]	0	n/a	n/a	2021	no	Human and animal fecal waste.
Fecal Indicator <i>E. coli</i> at the source (positive samples)	TT	n/a	n/a	n/a	2021	no	Human and animal fecal waste.
[1] <i>E.coli</i> MCL Violation occurs if: (1) routine and repeat samples are total coliform-positive and either is <i>E.coli</i> -positive or (2) the supply fails to take all required repeat samples, or (3) the supply fails to analyze total coliform-positive repeat samples for <i>E.coli</i> .							

2021 Lead and Copper Monitoring at Customer Tap								
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Action Level AL	90th Percentile Value*	Number of Samples Over AL	Violation yes/no	Major Sources in Drinking Water
Lead (Jan-June)	2021	ppb	0	15	0	0	no	Lead service lines; corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits.
Lead (July-Dec)	2021	ppb	0	15	1	0	no	Lead service lines; corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits.
Copper (Jan-June)	2021	ppm	1.3	1.3	0.1	0	no	Corrosion of household plumbing systems; Erosion of natural deposits.
Copper (July-Dec)	2021	ppm	1.3	1.3	0.1	0	no	Corrosion of household plumbing systems; Erosion of natural deposits.
*The 90th percentile value means 90 percent of the homes tested have lead and copper levels below the given 90th percentile value. If the 90th percentile value is above the AL additional requirements must be met.								

Regulated Organic Carbon (ppm)	Treatment Technique		Typical Source of Contaminant
Total Organic Carbon (ppm)	The Total Organic Carbon (TOC) removal ratio is calculated as the ratio between the actual TOC removal and the TOC removal requirements. The TOC was measured each quarter and because the level was low, there is no TOC removal requirement.		Erosion of natural deposits

Radionuclides 2019							
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level	Level Detected	Violation yes/no	Major Sources in Drinking Water
Combined Radium 226 and 228	2/13/19	pCi/L	0	5	1.0 ± 0.50	no	Erosion of natural deposits
Gross Alpha	2/13/19	pCi/L	0	15	2.0 ± 1.0	no	Erosion of natural deposits

2021 Unregulated Detected Contaminant

Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	11.0	Erosion of natural deposits

Additional Sampling results:

Every 5 years the United States Environmental Protection Agency (USEPA) establishes 30 unregulated contaminants for additional sampling. Unregulated contaminants are those for which the USEPA has not established drinking water standards. As required by the USEPA, GBT began testing for several unregulated contaminants in 2013 and will continue additional sampling in 2019 and 2020. The purpose of unregulated contaminants monitoring is to assist USEPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Before USEPA regulates a contaminant, it considers adverse health effects, the occurrence of the contaminant in drinking water, and whether the regulation would reduce health risk. The following tables list the unregulated contaminants detected during the 2019 calendar year.

Unregulated Contaminants - Monitored at the Primary Source (AM1: metals, pesticides, alcohols, SVOCs)			
Contaminant	Units	Range	Source
Bromide	ppm	ND - 23.2	Naturally present in fossil fuel, coal and shale.
Total Organic Carbon	ppm	2 - 2.4	Erosion of natural deposits.

Unregulated Contaminants - Monitored at the Treatment Plant and Entry Point into the System			
Contaminant	Units	Range	Source
Manganese, total	ug/l	2.1 - 10.6	Naturally present in the environment.

Unregulated Contaminants - Monitored in the Distribution System			
Contaminant	Units	Range	Source
Dichloroacetic acid (DCAA)	ug/l	1.2 - 13.2	By-product of drinking water disinfection.
Trichloroacetic acid (TCAA)	ug/l	1.6 - 16.5	By-product of drinking water disinfection.
Bromo chloroacetic acid (BCAA)	ug/l	0.3 - 3.9	By-product of drinking water disinfection.
Bromo dichloroacetic acid (BDCAA)	ug/l	ND - 3.1	By-product of drinking water disinfection.
Dibromo acetic acid (DBAA)	ug/l	ND - 0.8	By-product of drinking water disinfection.
ChloroDiBromoAcetic acid	ug/l	ND - 0.6	By-product of drinking water disinfection.
HAA5 Group	ug/l	2.8 - 22.6	By-product of drinking water disinfection.
HAA6Br Group	ug/l	0.6 - 8.1	By-product of drinking water disinfection.
HAA9 Group	ug/l	3.7 - 29.9	By-product of drinking water disinfection.

Tested for but not Detected Unregulated Contaminants:

Germanium, Chlorpyrifos, Dimethipin, Ethoprop, alpha-Hexachlorocyclohexane, Oxyfluorfen, Total Permethrin, Profenophos, Tebuconazole, Tribufos, butylated hydroxy anisole, o-toluidine, Quinoline, 1-butanol, 2-methoxyethanol, 2-propen-1-ol, MonoChloroacetic aci, MonoBromo Acetic acid, PFAS/PFOS.

Information about lead: 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. Grand Blanc Township 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 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 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 USEPA's Safe Drinking Water Hotline or at www.gbtgov.com.

People with Special Health Concerns

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as persons with cancer who are 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 for infections. These people should seek advice about drinking water from their health care providers. EPA/CDC (Communicable Disease Center) 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).

Cryptosporidium

Cryptosporidium is a disease-causing parasite that lives in the intestinal tract of many animals, including dogs and cats. Symptoms of infection include diarrhea, abdominal cramps, headaches, nausea, and vomiting. The disease is typically spread through contact with feces of an infected animal or person and by consuming contaminated food or water. Cryptosporidium can be introduced into bodies of water by way of surface water runoff that contains animal waste and sewage discharge. The water supplied to the Genesee County Drain Commissioner Division of Water & Waste Services (GCDC-WWS) has been tested for Cryptosporidium. This testing has been ongoing since 1994. Cryptosporidium has never been detected in any of the samples tested.

The (GCDC-WWS) water treatment plant went on line in December of 2017. GCDC-WWS is required to conduct monthly source water monitoring for Cryptosporidium, Giardia, and E. Coli for the initial 24-months of operation. The purpose of the testing is to verify the quality of our source water. Based upon the test results, the quality of our source water places us into the best category of the Long Term 2 Enhanced Surface Water Treatment Rule. The purpose of the rule is to reduce illness linked with disease causing microorganisms in drinking water. It is important to note, however, Cryptosporidium, Giardia, and Microbial pathogens can be spread through means other than drinking water.