

EXHIBIT N2

GREENVILLE WATER AUTHORITY

2019 ANNUAL DRINKING WATER QUALITY REPORT

PWSID #: 6430037

Website: <http://www.gmwa.info>

Este informe contiene información muy importante sobre su agua de beber. Tradúzcalo ó hable con alguien que lo entienda bien. (This report contains very important information about your drinking water. Translate it, or speak with someone who understands it.)

About Your Drinking Water – Greenville Water Authority (GWA) is pleased to provide you with its 2019 Consumer Confidence Report. The report summarizes the quality of water GWA provided in 2019 including details about its water source, what the water at your tap contains, and how it compares to standards set by regulatory agencies. Although the report lists only those regulated substances that were detected in your water, we test for more than what is reported. This report is only a summary of our testing during 2019. If you have questions about this report please contact Carol Paul, Manager, at 724 588-4340 or visit our website at <http://www.gmwa.info>.

We want you to be informed about your tap water. If you want to learn more, please attend any of our regularly scheduled board meetings held on the second Wednesday of every month at 44 Clinton Street, Greenville PA 16125 at 4:30 PM.

Source of Supply – The source of water for GWA comes from the Shenango River. A Source Water Assessment of our source was completed by the PA Department of Environmental Protection (PADEP) in 2003. The Assessment found that our source is potentially most susceptible to road de-icing materials, accidental spills along roads and leaks in underground storage tanks. Overall, our source has little risk of significant contamination. Summary reports of the Assessment are available by writing to Greenville Water Authority, 44 Clinton Street, Greenville, PA 16125 and is available on the PADEP website at www.depweb.state.pa.us (Keyword: "source water"). Complete reports were distributed to municipalities, water suppliers, local planning agencies, and PADEP offices. Copies of the complete report are available for review at the PADEP Meadville Regional Office, Records Management Unit at (814) 332-6899.

The sources of drinking water (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 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, stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organics, 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 result from oil and gas production and mining activities.

Substances Expected to be in Drinking Water

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. 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 (EPA) Safe Drinking Water Hotline at 800.426.4791.

Our water system is designed and operated to deliver water to our customers' plumbing systems that complies with state and federal drinking water standards. This water is disinfected using chlorine, but it is not necessarily sterile. Customers' plumbing, including treatment devices, might remove, introduce or increase contaminants in tap water. All customers, and in particular operators of facilities like hotels and institutions serving susceptible populations (like hospitals and nursing homes), should properly operate and maintain the plumbing systems in these facilities. You can obtain additional information from the EPA's Safe Drinking Water Hotline at 800.426.4791.

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 microbial contaminants are available from the Safe Drinking Water Hotline at (800-426-4791).

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. Greenville Water Authority takes steps to reduce the potential for lead to leach from your pipes into the water. This is accomplished by adding a corrosion inhibitor to the water leaving our treatment facility. However, we 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.

Greenville Water Authority is currently updating our customer records to identify homes with lead service lines and homes with copper pipes and lead solder installed between 1983 and 1988. If your home meets these criteria or you're not sure, please contact us to schedule a free evaluation of your plumbing material. You may qualify for free lead and copper testing of your drinking water. 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> or on the Authority website at www.gmwa.info. For more information about reducing lead exposure, call the office at 724 588-4340 and we will mail you information.

MONITORING YOUR WATER:

We routinely monitor for contaminants in your drinking water according to federal and state laws. The following tables show the results of our monitoring during 2019. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data is from prior years in accordance with the Safe Drinking Water Act. The date has been noted on the sampling results table.

DETECTED SAMPLE RESULTS:

Entry Point Disinfectant Residual – measured at the water leaves the treatment facility							
Contaminant	Minimum Level Required	Lowest Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Chlorine	0.20	0.92	0.92– 3.79	ppm	10/2019	N	Water additive used to control microbes.

Total Organic Carbon (TOC) Removal - measured at the treatment facility					
Contaminant	Range of % Removal Required	Range of % Removal Achieved	Number of Quarters Out of Compliance	Violation Y/N	Sources of Contamination
TOC	25 – 35*	41.1-55.3	0	N	Naturally present in the environment

*TOC compliance is determined by a running annual average (RAA) computed quarterly. All of the quarterly RAAs met compliance.

Chemical Contaminants								
Contaminant	MCL in CCR units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Chlorine (distribution)	4	MRDLG 4	2.59	1.13 – 3.11	ppm	2019	N	Water additive to control microbes.
Fluoride	2*	4	1.13	-	ppm	2019	N	Water additive which promotes strong teeth.
Nitrate	10	10	0.54	-	ppm	2019	N	Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits
Haloacetic Acids	60	N/A	28.0 (a)	0 – 58.1	ppb	2019	N	By-product drinking water chlorination.
Total Trihalomethanes	80	N/A	42.3 (a)	21.2 – 57.0	ppb	2019	N	By-product drinking water chlorination

*EPA's MCL for fluoride is 4 ppm. However, Pennsylvania has set a lower MCL to better protect human health.

(a) For haloacetic acids and total trihalomethanes, the Level Detected is the highest annual average of the quarterly averages. Compliance is based on a running annual average of quarterly results, not a single sample. The Range of Detections lists the lowest and highest values among all individual samples.

Lead and Copper – 21 sites were tested							
Contaminant	Action Level (AL)	MCLG	90 th Percentile Value	Units	# of Sites Above AL of Total Sites	Violation Y/N	Sources of Contamination
Lead (2019)	15	0	0	ppb	0 of 21	N	Corrosion of household plumbing.
Copper (2019)	1.3	1.3	0.064	ppm	0 of 21	N	Corrosion of household Plumbing.

Turbidity – a measure of the clarity of the water at the treatment facility							
Contaminant	MCL	MCLG	Level Detected	Sample Date	Violation Y/N	Source of Contamination	
Turbidity	TT=1 NTU for a single measurement	N/A	0.36 NTU	6/2019	N	Soil runoff	
	TT= at least 95% of monthly samples ≤0.3 NTU		100 %	2019	N		

Other Monitoring

Cryptosporidium

Cryptosporidium is a naturally occurring microbial pathogen found in surface water throughout the U.S. Monitoring for *Cryptosporidium* was conducted under a national program that began in October of 2017 continued until October 2019 on raw (untreated) water from our source, the Shenango River. *Cryptosporidium* was detected in 8 of 24 raw water samples, highest 12 month mean of 0.074 counts per liter. The results will put GWA into the lowest category of risk for raw (untreated) water. Our water treatment processes are designed to remove *Cryptosporidium*, but complete removal of all organisms at all times cannot be guaranteed. Monitoring of source water indicates the presence of these organisms. Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of illness. For this reason, immuno-compromised individuals (people with weakened immune systems) are encouraged to consult their doctor regarding appropriate precautions to avoid infection. *Cryptosporidium* must be ingested to cause disease and it may be spread through means other than drinking water.

Monitoring for Unregulated Contaminants

The 1996 amendments to the Safe Drinking Water Act (SDWA) require that once every five years, the U.S. Environmental Protection Agency (EPA) issue a new list of no more than 30 unregulated contaminants to be monitored by public water systems (PWSs). The Unregulated Contaminant Monitoring Rule (UCMR) provides EPA and other interested parties with scientifically valid data on the occurrence of contaminants in drinking water. These data serve as a primary source of occurrence and exposure information that the agency uses to develop regulatory decisions. If a PWS monitoring for UCMR4 finds contaminants in its drinking water, it must provide the information to its customers in this annual water quality report. Below is a table of the results of our UCMR4 monitoring conducted from 2018 to 2019.. All other contaminants tested during UCMR4 were Not Detected. More information about unregulated contaminants may be found at: <https://drinktapp.org/Water-Info/Whats-in-My-Water>.

Unregulated Contaminant	Average Detection	Range of Detections	MCL	Information / Sources of Contamination
Manganese, ppb	1.145	0.69 – 1.8	50*	Manganese is a naturally-occurring metal that is essential to the proper functioning of the body. Manganese occurs naturally in both ground and surface water sources, as well as soils that erode into water sources.
HAA5, ppb	27.1	2.42 – 69.4	60	Haloacetic acids (HAA5, HAA6Br, HAA9) are a group of disinfectant byproducts that are formed when disinfectants, such as chlorine or chloramine, are used to treat water and react with naturally occurring organic and inorganic matter present in source waters. Which HAA forms depends on several factors, so HAAs are often tracked and described as groups of individual acidic compounds.
HAA6Br, ppb	6.01	0.57 – 13.4	NA	
HAA9, ppb	33.0	3.03 – 82.8	NA	

* The PADEP already regulates manganese with a “secondary” maximum contaminant limit (SMCL). SMCLs are used when the contaminant of interest has no known health effects, but exceeding the limit may adversely affect the aesthetic quality of the water.

VIOLATIONS:

Greenville Water Authority had the following violations in 2019. A raw water and a finished water result for alkalinity taken in March as well as two total coliform samples collected on July 29th were reported late. The samples were collected as required and all results were within compliance limits. In July, GWA failed to collect a sample for total organic carbon on the raw water. This was an oversight by GWA. One sample is collected each month. The remaining samples were all collected and reported. There were no potential health effects or risks associated with any of these violations.

WHAT IS NOT IN YOUR WATER?

In addition to the substances shown in this report, the Greenville Water Authority tests your water for many other substances which were NOT detected in your water. These tests are routinely conducted according to regulations and procedures outlined in state and federal regulations for safe drinking water.

EMERGENCY NOTIFICATION:

We encourage you to go to our website at <http://www.gmwa.info> and enter your contact information through the SWIFT911 box towards the bottom of the home page. This will allow the Authority to contact you in the event of a service alert.

DEFINITIONS AND ABBREVIATIONS:

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

Maximum Contaminant Level (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.

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.

Minimum Residual Disinfectant Level - The minimum level of residual disinfectant required at the entry point to the distribution system.

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 for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (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.

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

Fluoride: Fluoride may help prevent tooth decay for children, but can be harmful in excess. Customers of GWA receive water from fluoridated supplies. This information may be helpful to you, your pediatrician, or your dentist in determining whether fluoride supplements or treatment are appropriate.

Turbidity: Monitored as a measure of treatment efficiency for removal of particles. Plant Performance Level: 0.3 NTU.

Total Organic Carbon: The level reported under "Level Found" for Total Organic Carbon (TOC) is the lowest ratio between percentage of TOC actually removed to the percentage of TOC required to be removed. A value greater than one indicates that the water system is in compliance with the TOC removal requirements. A value of less than one indicates a Treatment Technique violation of the TOC removal requirements.

NTU: Nephelometric turbidity unit (cloudiness of water)

PWSID: Public water supply identification number

ppm = parts per million, or milligrams per liter (mg/L)

ppb = parts per billion

mg/L = milligrams per liter

ug/L = micrograms per liter

< = less than

> = greater than



Greenville Water Authority 2020 Water Quality Report

PWSID: 6430037

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- Pesticides and herbicides, which may come from a variety of sources such as agriculture, stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organics, 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 result from oil and gas production and mining activities.

Substances Expected to be in Drinking Water

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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 (EPA) Safe Drinking Water Hotline at 800.426.4791.

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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 microbial contaminants are available from the Safe Drinking Water Hotline at (800-426-4791)

THIS REPORT CONTAINS MANY TERMS AND ABBREVIATIONS THAT MAY NOT BE FAMILIAR TO YOU.

To help better understand these terms, we've provided the following definitions which appear on this page.

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

Maximum Contaminant Level (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. MCLs are set at very stringent levels. A person would have to drink 2 liters of water for a lifetime to have a one-in-a-million chance of having the identified health effect described for many regulated contaminants,

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.

Minimum Residual Disinfectant Level - The minimum level of residual disinfectant required at the entry point to the distribution system.

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

Fluoride: Fluoride may help prevent tooth decay for children, but can be harmful in excess. Customers of GWA receive water from fluoridated supplies. This information may be helpful to you, your pediatrician, or your dentist in determining whether fluoride supplements or treatment are appropriate.

Turbidity: Monitored as a measure of the treatment efficiency for removal of particles. Turbidity is measured in **Nephelometric turbidity units (NTU)** and is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person. The plant performance Level is 0.3 NTU.

Total Organic Carbon: The level reported under "Level Found" for Total Organic Carbon (TOC) is the lowest ratio between percentage of TOC actually removed to the percentage of TOC required to be removed. A value greater than one, (>1), indicates that the water system is in compliance with the TOC removal requirements. A value of less than one, (<1), indicates a Treatment Technique violation of the TOC removal requirements.

ND = Non-Detects. Laboratory analysis indicates the constituent is not present

PWSID: Public water supply identification number

ppm = parts per million, or milligrams per liter (mg/L). One ppm corresponds to one minute in 2 years, or a single penny in \$10,000.

ppb = parts per billion, or micrograms per liter (ug/L). One ppb corresponds to one minute in 2,000 years, or a single penny in \$10,000,000

ppt = parts per trillion, or nanograms per liter (ng/L). One ppt corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

mg/L = milligrams per liter (see ppm above)

ug/L = micrograms per liter (see ppb above)

ng/L = micrograms per liter (see ppt above)

< = less than

> = greater than

ADDITIONAL INFORMATION

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. Greenville Water Authority takes steps to reduce the potential for lead to leach from your pipes into the water. This is accomplished by adding a corrosion inhibitor to the water leaving our treatment facility. However, we 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.

Greenville Water Authority is currently updating our customer records to identify homes with lead service lines and homes with copper pipes and lead solder installed between 1983 and 1988. If your home meets these criteria or you're not sure, please contact us to schedule a free evaluation of your plumbing material. You may qualify for free lead and copper testing of your drinking water.

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> or on the Authority website at www.gmwa.info. For more information about reducing lead exposure, call the office at 724 588-4340 and we will mail you information.

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In addition to the substances shown in this report, the Greenville Water Authority tests your water for many other substances which were NOT detected in your water. These tests are routinely conducted according to regulations and procedures outlined in state and federal regulations for safe drinking water.

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VIOLATIONS:

We are pleased to report that Greenville Water Authority had no violations in 2020.

We are pleased to report that our drinking water is safe and meets Federal and State requirements. We routinely monitor for contaminants in your drinking water according to federal and state laws. The following tables show the results of our monitoring during 2020. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data is from prior years in accordance with the Safe Drinking Water Act. In those cases, the date has been noted on the sampling results table. Those items that were detected during our testing process are detailed on pages 5-7.

DETECTED SAMPLE RESULTS

Entry Point Disinfectant Residual – measured at the water leaves the treatment facility							
Contaminant	Minimum Level Required	Lowest Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Chlorine	0.20	1.43	1.43– 3.97	ppm	02/2020	N	Water additive used to control microbes.

Total Organic Carbon (TOC) Removal - measured at the treatment facility					
Contaminant	Range of % Removal Required	Range of % Removal Achieved	Number of Quarters Out of Compliance	Violation Y/N	Sources of Contamination
TOC	25 – 45*	1.8 – 64.3	0	N	Naturally present in the environment

*TOC compliance is determined by a running annual average (RAA) computed quarterly. All of the quarterly RAAs met compliance

Chemical Contaminants								
Contaminant	MCL in CCR units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Chlorine (distribution)	4	MRDLG 4	3.6	1.1 – 3.6	ppm	2020	N	Water additive to control microbes.
Fluoride	2*	4	0.87	-	ppm	2020	N	Water additive which promotes strong teeth.
Nitrate	10	10	1.16	-	ppm	2020	N	Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits
Haloacetic Acids	60	N/A	24.1 (a)	0 – 25.6	ppb	2020	N	By-product drinking water chlorination.
Total Trihalomethanes	80	N/A	39.9 (a)	3.9 – 40.5	ppb	2020	N	By-product drinking water chlorination

* EPA's MCL for fluoride is 4 ppm. However, Pennsylvania has set a lower MCL to better protect human health.

a) For haloacetic acids and total trihalomethanes, the Level Detected is the highest annual average of the quarterly averages. Compliance is based on a running annual average of quarterly results, not a single sample. The Range of Detections lists the lowest and highest values among all individual samples.

DETECTED SAMPLE RESULTS (continued)

Lead and Copper – 21 sites were tested							
Contaminant	Action Level (AL)	MCLG	90th Percentile Value	Units	# of Sites Above AL of Total Sites	Violation Y/N	Sources of Contamination
Lead (2019)	15	0	0	ppb	0 of 21	N	Corrosion of household plumbing.
Copper (2019)	1.3	1.3	0.064	ppm	0 of 21	N	Corrosion of household Plumbing.

Turbidity – a measure of the clarity of the water at the treatment facility						
Contaminant	MCL	MCLG	Level Detected	Sample Date	Violation Y/N	Source of Contamination
Turbidity	TT=1 NTU for a single measurement	N/A	0.288 NTU	3/2020	N	Soil runoff
	TT= at least 95% of monthly samples \leq 0.3 NTU		100 %	2020	N	

OTHER MONITORING

Cryptosporidium

Cryptosporidium is a naturally occurring microbial pathogen found in surface water throughout the U.S. Monitoring for *Cryptosporidium* was conducted under a national program that began in October of 2017 and continued until October 2019 on raw (untreated) water from our source, the Shenango River. *Cryptosporidium* was detected in 8 of 24 raw water samples, with the highest 12 month mean of 0.074 counts per liter. The results will put GWA into the lowest category of risk for raw (untreated) water.

Our water treatment processes are designed to remove *Cryptosporidium*, but complete removal of all organisms at all times cannot be guaranteed. Monitoring of source water indicates the presence of these organisms. Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of illness. For this reason, immuno-compromised individuals (people with weakened immune systems) are encouraged to consult their doctor regarding appropriate precautions to avoid infection.

Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water.

Monitoring for Unregulated Contaminants

The 1996 amendments to the Safe Drinking Water Act (SDWA) require that once every five years, the U.S. Environmental Protection Agency (EPA) issue a new list of no more than 30 unregulated contaminants to be monitored by public water systems (PWSs). The Unregulated Contaminant Monitoring Rule (UCMR) provides EPA and other interested parties with scientifically valid data on the occurrence of contaminants in drinking water. These data serve as a primary source of occurrence and exposure information that the agency uses to develop regulatory decisions. If a PWS monitoring for UCMR4 finds contaminants in its drinking water, it must provide the information to its customers in this annual water quality report. Below is a table of the results of our UCMR4 monitoring conducted from 2018 to 2019. All other contaminants tested during UCMR4 were Not Detected. More information about unregulated contaminants may be found at: <https://drinktapp.org/Water-Info/Whats-in-My-Water>.

UCMR4 MONITORING RESULTS – Detected in 2018-2019

Unregulated Contaminant	Average Detection	Range of Detections	MCL	Information / Sources of Contamination
Manganese, ppb	1.145	0.69 – 1.8	50*	Manganese is a naturally-occurring metal that is essential to the proper functioning of the body. Manganese occurs naturally in both ground and surface water sources, as well as soils that erode into water sources.
HAA5, ppb	27.1	2.42 – 69.4	60	Haloacetic acids (HAA5, HAA6Br, HAA9) are a group of disinfectant byproducts that are formed when disinfectants, such as chlorine or chloramine, are used to treat water and react with naturally occurring organic and inorganic matter present in source waters. Which HAA forms depends on several factors, so HAAs are often tracked and described as groups of individual acidic compounds.
HAA6Br, ppb	6.01	0.57 – 13.4	NA	
HAA9, ppb	33.0	3.03 – 82.8	NA	

* The PADEP already regulates manganese with a “secondary” maximum contaminant limit (SMCL). SMCLs are used when the contaminant of interest has no known health effects, but exceeding the limit may adversely affect the aesthetic quality of the water.



Greenville Municipal Water Authority

2021 Water Quality Report

PWSID: 6430037

Website: <http://gmwa.info>

Este informe contiene información muy importante sobre su agua de beber. Tradúzcalo ó hable con alguien que lo entienda bien. *(This report contains very important information about your drinking water. Translate it, or speak with someone who understands it.)*

About Your Drinking Water

Greenville Municipal Water Authority (GMWA) is pleased to provide you with its 2021 Annual Water Quality Report. The report summarizes the quality of water GMWA provided in 2021 including details about its water source, what the water at your tap contains, and how it compares to standards set by regulatory agencies. Although the report lists only those regulated substances that were detected in your water, we test for more than what is reported. This report is only a summary of our testing during 2021. If you have questions about this report please contact Jessica Kent, Manager, at 724 588-4340 or visit our website at <http://www.gmwa.info>.

We want you to be informed about your tap water. If you want to learn more, please contact GMWA or attend any of our regularly scheduled board meetings held on the second Wednesday of every month at 44 Clinton Street, Greenville PA 16125 at 4:30 PM.

Source of Supply

The source of water for GMWA comes from the Shenango River. A Source Water Assessment of our source was completed by the PA Department of Environmental Protection (PADEP) in 2003. The Assessment found that our source is potentially most susceptible to road de-icing materials, accidental spills along roads and leaks in underground storage tanks. Overall, our source has little risk of significant contamination. Summary reports of the Assessment are available by writing to Greenville Municipal Water Authority, 44 Clinton Street, Greenville, PA 16125 and is available on the PADEP website at www.depweb.state.pa.us (Keyword: "source water"). Complete reports were distributed to municipalities, water suppliers, local planning agencies, and PADEP offices. Copies of the complete report are available for review at the PADEP Meadville Regional Office, Records Management Unit at (814) 332-6899.

The sources of drinking water (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 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, stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organics, 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 result from oil and gas production and mining activities.

Substances Expected to be in Drinking Water

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amounts of certain contaminants in water provided by public water systems. Food and Drug Administration 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 (EPA) Safe Drinking Water Hotline at 800.426.4791.

Our water system is designed and operated to deliver water to our customers' plumbing systems that complies with state and federal drinking water standards. This water is disinfected using chlorine, but it is not necessarily sterile. Customers' plumbing, including treatment devices, might remove, introduce or increase contaminants in tap water. All customers, and in particular operators of facilities like hotels and institutions serving susceptible populations (like hospitals and nursing homes), should properly operate and maintain the plumbing systems in these facilities.

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 microbial contaminants are available from the Safe Drinking Water Hotline at (800-426-4791)



THIS REPORT CONTAINS MANY TERMS AND ABBREVIATIONS THAT MAY NOT BE FAMILIAR TO YOU.

To help better understand these terms, we've provided the following definitions which appear on this page.

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

Maximum Contaminant Level (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. MCLs are set at very stringent levels. A person would have to drink 2 liters of water a day for a lifetime to have a one-in-a-million chance of having the identified health effect described for many regulated contaminants.

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.

Minimum Residual Disinfectant Level - The minimum level of residual disinfectant required at the entry point to the distribution system.

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 for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (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.

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

Fluoride: Fluoride may help prevent tooth decay for children, but can be harmful in excess. Customers of GWMA receive water from fluoridated supplies. This information may be helpful to you, your pediatrician, or your dentist in determining whether fluoride supplements or treatment are appropriate.

Turbidity: Monitored as a measure of the treatment efficiency for removal of particles. Turbidity is measured in **Nephelometric turbidity units (NTU)** and is a measure of the clarity of water. Turbidity in excess of 5

NTU is just noticeable to the average person. The plant performance Level is 0.3 NTU.

Total Organic Carbon: The level reported under "Level Found" for Total Organic Carbon (TOC) is the lowest ratio between percentage of TOC actually removed to the percentage of TOC required to be removed. A value greater than one, (>1), indicates that the water system is in compliance with the TOC removal requirements. A value of less than one, (<1), indicates a Treatment Technique violation of the TOC removal requirements.

ND = Non-Detects: Laboratory analysis indicates the constituent is not present

PWSID: Public water supply identification number

ppm = parts per million, or milligrams per liter (mg/L). One ppm corresponds to one minute in 2 years, or a single penny in \$10,000.

ppb = parts per billion, or micrograms per liter (ug/L). One ppb corresponds to one minute in 2,000 years, or a single penny in \$10,000,000

ppt = parts per trillion, or nanograms per liter (ng/L). One ppt corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

mg/L = milligrams per liter (see ppm above)

ug/L = micrograms per liter (see ppb above)

ng/L = nanograms per liter (see ppt above)

< = less than

> = greater than

ADDITIONAL INFORMATION

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. Greenville Municipal Water Authority takes steps to reduce the potential for lead to leach from your pipes into the water. This is accomplished by adding a corrosion inhibitor to the water leaving our treatment facility. However, we 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.

Greenville Municipal Water Authority is currently updating our customer records to identify homes with lead service lines and homes with copper pipes and lead solder installed between 1983 and 1988. If your home meets these criteria or you're not sure, please contact us to schedule a free evaluation of your plumbing material. You may qualify for free lead and copper testing of your drinking water.

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> or on the Authority website at www.gmwa.info. For more information about reducing lead exposure, call the office at 724 588-4340 and we will mail you information.

WHAT IS NOT IN YOUR WATER?

In addition to the substances shown in this report, the Greenville Municipal Water Authority tests your water for many other substances which were NOT detected in your water. These tests are routinely conducted according to regulations and procedures outlined in state and federal regulations for safe drinking water.

EMERGENCY NOTIFICATION:

We encourage you to go to our website at <http://www.gmwa.info> and enter your contact information through the SWIFT911 box towards the bottom of the home page. This will allow the Authority to contact you in the event of a service alert.

VIOLATIONS:

Greenville Municipal Water Authority failed to meet monitoring requirements for Total Organic Carbon (TOC) during May 2021 and therefore cannot be certain of water quality for that period. All TOC samples were submitted as required (monthly) in 2021 with the exception of May. This failure was a simple oversight. An automated reminder notification has been created to prevent failure to monitor TOCs from happening again. TOC has no health effects. However, TOC provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effect, liver or kidney problems, and may lead to an increased risk of getting cancer. All disinfection byproducts monitored by GMWA in 2021 as required by PADEP were below the MCL. No action by consumers was needed and no alternative water supply was required. If you know someone who may benefit from this information, please share it with them.

We are pleased to report that our drinking water is safe and meets Federal and State requirements. We routinely monitor for contaminants in your drinking water according to federal and state laws. The following tables show the results of our monitoring during 2021. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data is from prior years in accordance with the Safe Drinking Water Act. In those cases, the date has been noted on the sampling results table. Those items that were detected during our testing process are detailed on pages 5-7.

DETECTED SAMPLE RESULTS

Entry Point Disinfectant Residual – measured at the water leaves the treatment facility							
Contaminant	Minimum Level Required	Lowest Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Chlorine	0.20	1.29	1.29– 4.6	ppm	2021	N	Water additive used to control microbes.

Total Organic Carbon (TOC) Removal - measured at the treatment facility					
Contaminant	Range of % Removal Required	Range of % Removal Achieved	Number of Quarters Out of Compliance	Violation Y/N	Sources of Contamination
TOC	25 – 45*	0.2-54.7	0	N	Naturally present in the environment

*TOC compliance is determined by a running annual average (RAA) computed quarterly. All of the quarterly RAAs met compliance

Chemical Contaminants								
Contaminant	MCL in CCR units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Chlorine (distribution)	4	MRDL G 4	3.36	0.87 – 3.36	ppm	2021	N	Water additive to control microbes
Haloacetic Acids	60	N/A	15.1 (a)	0 – 84.7	ppb	2021	N	By-product drinking water chlorination
Total Trihalomethanes	80	N/A	48.8 (a)	25.2 – 63.3	ppb	2021	N	By-product drinking water chlorination
Toluene	1	1	0.0009	0 – 0.0009	ppm	2021	N	Discharge from petroleum factories

* EPA's MCL for fluoride is 4 ppm. However, Pennsylvania has set a lower MCL to better protect human health.

a) For haloacetic acids and total trihalomethanes, the Level Detected is the highest annual average of the quarterly averages. Compliance is based on a running annual average of quarterly results, not a single sample. The Range of Detections lists the lowest and highest values among all individual samples.

DETECTED SAMPLE RESULTS (continued)

Lead and Copper – 21 sites were tested							
Contaminant	Action Level (AL)	MCLG	90 th Percentile Value	Units	# of Sites Above AL of Total Sites	Violation Y/N	Sources of Contamination
Lead (2019)	15	0	0	ppb	0 of 21	N	Corrosion of household plumbing
Copper (2019)	1.3	1.3	0.064	ppm	0 of 21	N	Corrosion of household plumbing

Turbidity – a measure of the clarity of the water at the treatment facility						
Contaminant	MCL	MCLG	Level Detected	Sample Date	Violation Y/N	Source of Contamination
Turbidity	TT=1 NTU for a single measurement	N/A	0.292 NTU	2021	N	Soil runoff
	TT= at least 95% of monthly samples \leq 0.3 NTU		100%	2021	N	

OTHER MONITORING

Cryptosporidium

Cryptosporidium is a naturally occurring microbial pathogen found in surface water throughout the U.S. Monitoring for Cryptosporidium was conducted under a national program that began in October of 2017 and continued until October 2019 on raw (untreated) water from our source, the Shenango River. Cryptosporidium was detected in 8 of 24 raw water samples, with the highest 12 month mean of 0.074 counts per liter. The results will put GWMA into the lowest category of risk for raw (untreated) water.

Our water treatment processes are designed to remove Cryptosporidium, but complete removal of all organisms at all times cannot be guaranteed. Monitoring of source water indicates the presence of these organisms. Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of illness. For this reason, immuno-compromised individuals (people with weakened immune systems) are encouraged to consult their doctor regarding appropriate precautions to avoid infection.

Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water.

MONITORING FOR UNREGULATED CONTAMINANTS

The 1996 amendments to the Safe Drinking Water Act (SDWA) require that once every five years, the U.S. Environmental Protection Agency (EPA) issue a new list of no more than 30 unregulated contaminants to be monitored by public water systems (PWSs). The Unregulated Contaminant Monitoring Rule (UCMR) provides EPA and other interested parties with scientifically valid data on the occurrence of contaminants in drinking water. These data serve as a primary source of occurrence and exposure information that the agency uses to develop regulatory decisions. If a PWS monitoring for UCMR4 finds contaminants in its drinking water, it must provide the information to its customers in this annual water quality report. Below is a table of the results of our UCMR4 monitoring conducted from 2018 to 2019. All other contaminants tested during UCMR4 were not detected. More information about unregulated contaminants may be found at: <https://drinktapp.org/Water-Info/Whats-in-My-Water>.

UCMR4 MONITORING RESULTS – Detected in 2018-2019

Unregulated Contaminant	Average Detection	Range of Detections	MCL	Information / Sources of Contamination
Manganese, ppb	1.145	0.69 – 1.8	50*	Manganese is a naturally-occurring metal that is essential to the proper functioning of the body. Manganese occurs naturally in both ground and surface water sources, as well as soils that erode into water sources.
HAA5, ppb	27.1	2.42 – 69.4	60	Haloacetic acids (HAA5, HAA6Br, HAA9) are a group of disinfectant byproducts that are formed when disinfectants, such as chlorine or chloramine, are used to treat water and react with naturally occurring organic and inorganic matter present in source waters. Which HAA forms depends on several factors, so HAAs are often tracked and described as groups of individual acidic compounds.
HAA6Br, ppb	6.01	0.57 – 13.4	NA	
HAA9, ppb	33.0	3.03 – 82.8	NA	

* The PADEP already regulates manganese with a “secondary” maximum contaminant limit (SMCL). SMCLs are used when the contaminant of interest has no known health effects, but exceeding the limit may adversely affect the aesthetic quality of the water.



Greenville Municipal Water Authority

2022 Water Quality Report

PWSID: 6430037

Website: <http://gmwa.info>

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Source of Supply

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noticeable to the average person. The plant performance Level is 0.3 NTU.

Total Organic Carbon: The level reported under "Level Found" for Total Organic Carbon (TOC) is the lowest ratio between percentage of TOC actually removed to the percentage of TOC required to be removed. A value greater than one, (>1), indicates that the water system is in compliance with the TOC removal requirements. A value of less than one, (<1), indicates a Treatment Technique violation of the TOC removal requirements.

ND = Non-Detects: Laboratory analysis indicates the constituent is not present

PWSID: Public water supply identification number

ppm = parts per million, or milligrams per liter (mg/L). One ppm corresponds to one minute in 2 years, or a single penny in \$10,000.

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mg/L = milligrams per liter (see ppm above)

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ADDITIONAL INFORMATION

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. Greenville Municipal Water Authority takes steps to reduce the potential for lead to leach from your pipes into the water. This is accomplished by adding a corrosion inhibitor to the water leaving our treatment facility. However, we 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.

Greenville Municipal Water Authority is currently updating our customer records to identify homes with lead service lines and homes with copper pipes and lead solder installed between 1983 and 1988. If your home meets these criteria or you're not sure, please contact us to schedule a free evaluation of your plumbing material. You may qualify for free lead and copper testing of your drinking water.

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> or on the Authority website at www.gmwa.info. For more information about reducing lead exposure, call the office at 724-588-4340 and we will mail you information.

WHAT IS NOT IN YOUR WATER?

In addition to the substances shown in this report, the Greenville Municipal Water Authority tests your water

for many other substances which were NOT detected in your water. These tests are routinely conducted according to regulations and procedures outlined in state and federal regulations for safe drinking water.

EMERGENCY NOTIFICATION:

Greenville Municipal Water Authority uses Rave Alerts automated notification system. This system allows the Authority to contact you in the event of a service alert.

VIOLATIONS:

Greenville Municipal Water Authority constantly monitors for various constituents in the water supply to meet all regulatory requirements. Greenville Municipal Water Authority water treatment plant failed to report on time a Coliform sample in the month of February 2022 and a Total Alkalinity result in the month of June 2022. The late reported Coliform sample was one of the ten monthly samples we collect and report every month. The late reported Alkalinity result is used to calculate a percent removal of Total Organic Carbon for Enhanced Coagulation compliance.

We are pleased to report that our drinking water meets Federal and State requirements. We routinely monitor for contaminants in your drinking water according to federal and state laws. The following tables show the results of our monitoring during 2022. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data is from prior years in accordance with the Safe Drinking Water Act. In those cases, the date has been noted on the sampling results table. Those items that were detected during our testing process are detailed on pages 5-7.

DETECTED SAMPLE RESULTS

Entry Point Disinfectant Residual – measured at the water leaves the treatment facility							
Contaminant	Minimum Level Required	Lowest Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Chlorine	0.20	1.05	1.05 – 3.84	ppm	2022	N	Water additive used to control microbes.

Total Organic Carbon (TOC) Removal - measured at the treatment facility					
Contaminant	Range of % Removal Required	Range of % Removal Achieved	Number of Quarters Out of Compliance	Violation Y/N	Sources of Contamination
TOC	25 – 35*	-3.2 – 59.5	0	N	Naturally present in the environment

*TOC compliance is determined by a running annual average (RAA) computed quarterly. All of the quarterly RAAs met compliance

Chemical Contaminants								
Contaminant	MCL in CCR units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Chlorine (distribution)	4	MRDLG 4	3.22	1.05 – 3.22	ppm	2022	N	Water additive to control microbes
Haloacetic Acids	60	N/A	39.4 (a)	11.6 – 43.7	ppb	2022	N	By-product drinking water chlorination
Total Trihalomethanes	80	N/A	44.5 (a)	7.63 – 49.0	ppb	2022	N	By-product drinking water chlorination

a) For haloacetic acids and total trihalomethanes, the Level Detected is the highest annual average of the quarterly averages. Compliance is based on a running annual average of quarterly results, not a single sample. The Range of Detections lists the lowest and highest values among all individual samples.

DETECTED SAMPLE RESULTS (continued)

Lead and Copper – 20 sites were sampled							
Contaminant	Action Level (AL)	MCLG	90 th Percentile Value	Units	# of Sites Above AL of Total Sites	Violation Y/N	Sources of Contamination
Lead (2022)	15	0	1.29	ppb	1 of 20	N	Corrosion of household plumbing
Copper (2022)	1.3	1.3	0.046	ppm	0 of 20	N	Corrosion of household plumbing

Turbidity – a measure of the clarity of the water at the treatment facility							
Contaminant	MCL	MCLG	Level Detected	Sample Date	Violation Y/N	Source of Contamination	
Turbidity	TT=1 NTU for a single measurement	N/A	0.386 NTU	6/3/2022	N	Soil runoff	
	TT= at least 95% of monthly samples \leq 0.3 NTU		99.4%	2022	N		

OTHER MONITORING

Cryptosporidium

Cryptosporidium is a naturally occurring microbial pathogen found in surface water throughout the U.S. Monitoring for Cryptosporidium was conducted under a national program that began in October of 2017 and continued until October 2019 on raw (untreated) water from our source, the Shenango River. Cryptosporidium was detected in 8 of 24 raw water samples, with the highest 12 month mean of 0.074 counts per liter. The results will put GWMA into the lowest category of risk for raw (untreated) water.

Our water treatment processes are designed to remove Cryptosporidium, but complete removal of all organisms at all times cannot be guaranteed. Monitoring of source water indicates the presence of these organisms. Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of illness. For this reason, immuno-compromised individuals (people with weakened immune systems) are encouraged to consult their doctor regarding appropriate precautions to avoid infection. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water.

MONITORING FOR UNREGULATED CONTAMINANTS

The 1996 amendments to the Safe Drinking Water Act (SDWA) require that once every five years, the U.S. Environmental Protection Agency (EPA) issue a new list of no more than 30 unregulated contaminants to be monitored by public water systems (PWSs). The Unregulated Contaminant Monitoring Rule (UCMR) provides EPA and other interested parties with scientifically valid data on the occurrence of contaminants in drinking water. These data serve as a primary source of occurrence and exposure information that the agency uses to develop regulatory decisions. If a PWS monitoring for UCMR4 finds contaminants in its drinking water, it must provide the information to its customers in this annual water quality report. Below is a table of the results of our UCMR4 monitoring conducted from 2018 to 2019. All other contaminants tested during UCMR4 were not detected. More information about unregulated contaminants may be found at: <https://drinktap.org/Water-Info/Whats-in-My-Water>.

UCMR4 MONITORING RESULTS – Detected in 2018-2019

Unregulated Contaminant	Average Detection	Range of Detections	MCL	Information / Sources of Contamination
Manganese, ppb	1.145	0.69 – 1.8	50*	Manganese is a naturally-occurring metal that is essential to the proper functioning of the body. Manganese occurs naturally in both ground and surface water sources, as well as soils that erode into water sources.
HAA5, ppb	27.1	2.42 – 69.4	60	Haloacetic acids (HAA5, HAA6Br, HAA9) are a group of disinfectant byproducts that are formed when disinfectants, such as chlorine or chloramine, are used to treat water and react with naturally occurring organic and inorganic matter present in source waters. Which HAA forms depends on several factors, so HAAs are often tracked and described as groups of individual acidic compounds.
HAA6Br, ppb	6.01	0.57 – 13.4	NA	
HAA9, ppb	33.0	3.03 – 82.8	NA	

* The PA-DEP already regulates manganese with a “secondary” maximum contaminant limit (SMCL). SMCLs are used when the contaminant of interest has no known health effects, but exceeding the limit may adversely affect the aesthetic quality of the water.



Greenville Municipal Water Authority

2023 Water Quality Report

PWSID: 6430037

Website: <http://gmwa.info>

Este informe contiene información muy importante sobre su agua de beber. Tradúzcalo ó hable con alguien que lo entienda bien. *(This report contains very important information about your drinking water. Translate it, or speak with someone who understands it.)*

About Your Drinking Water

Greenville Municipal Water Authority (GMWA) is pleased to provide you with its 2023 Annual Water Quality Report. The report summarizes the quality of water GMWA provided in 2023 including details about its water source, what the water at your tap contains, and how it compares to standards set by regulatory agencies. Although the report lists only those regulated substances that have been detected in your water, we test for more than what is reported. This report is only a summary of our testing during 2023. If you have questions about this report, please contact the authority manager, Jessica Micco, at 724-588-4340 or visit our website at <http://www.gmwa.info>.

We want you to be informed about your tap water. If you want to learn more, please contact GMWA or attend any of our regularly scheduled board meetings held on the second Wednesday of every month at 44 Clinton Street, Greenville PA 16125 at 4:30 PM.

Source of Supply

The source of water for GMWA comes from the Shenango River. A Source Water Assessment of our source was completed by the PA Department of Environmental Protection (PA-DEP) in 2003. The Assessment found that our source is potentially most susceptible to road de-icing materials, accidental spills along roads and leaks in underground storage tanks. Overall, our source has little risk of significant contamination. Summary reports of the Assessment are available by writing to Greenville Municipal Water Authority, 44 Clinton Street, Greenville, PA 16125 and is available on the PA-DEP website at www.depweb.state.pa.us (keyword "source water"). Complete reports were distributed to municipalities, water suppliers, local planning agencies, and PA-DEP offices. Copies of the complete report are available for review at the PA-DEP Meadville Regional Office, Records Management Unit at 814-332-6899.

The sources of drinking water (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 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, stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organics, 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 result from oil and gas production and mining activities.

Substances Expected to be in Drinking Water

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amounts of certain contaminants in water provided by public water systems. Food and Drug Administration 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 (EPA) Safe Drinking Water Hotline at 800.426.4791.

Our water system is designed and operated to deliver water to our customers' plumbing systems that complies with state and federal drinking water standards. This water is disinfected using chlorine, but it is not necessarily sterile. Customers' plumbing, including treatment devices, might remove, introduce or increase contaminants in tap water. All customers, and in particular operators of facilities like hotels and institutions serving susceptible populations (like hospitals and nursing homes), should properly operate and maintain the plumbing systems in these facilities.

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 healthcare 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 at (800-426-4791)



THIS REPORT CONTAINS MANY TERMS AND ABBREVIATIONS THAT MAY NOT BE FAMILIAR TO YOU.

To help you better understand these terms, we've provided the following definitions:

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

Maximum Contaminant Level (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. MCLs are set at very stringent levels. A person would have to drink 2 liters of water a day for a lifetime to have a one-in-a-million chance of having the identified health effect described for many regulated contaminants.

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.

Minimum Residual Disinfectant Level - The minimum level of residual disinfectant required at the entry point to the distribution system.

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 for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (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.

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

Fluoride: Fluoride may help prevent tooth decay for children, but can be harmful in excess. Customers of GWMA receive water from fluoridated supplies. This information may be helpful to you, your pediatrician, or your dentist in determining whether fluoride supplements or treatment are appropriate.

Turbidity: Monitored as a measure of the treatment efficiency for removal of particles. Turbidity is measured in **Nephelometric turbidity units (NTU)** and is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person. The plant performance Level is 0.3 NTU.

Total Organic Carbon: The level reported under "Level Found" for Total Organic Carbon (TOC) is the lowest ratio between percentage of TOC actually removed to the percentage of TOC required to be removed. A value greater than one, (>1), indicates that the water system is in compliance with the TOC removal requirements. A value of less than one, (<1), indicates a Treatment Technique violation of the TOC removal requirements.

ND = Non-Detects: Laboratory analysis indicates the constituent is not present

PWSID: Public water supply identification number

ppm = parts per million, or milligrams per liter (mg/L). One ppm corresponds to one minute in 2 years, or a single penny in \$10,000.

ppb = parts per billion, or micrograms per liter (ug/L). One ppb corresponds to one minute in 2,000 years, or a single penny in \$10,000,000

ppt = parts per trillion, or nanograms per liter (ng/L). One ppt corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

mg/L = milligrams per liter (see ppm above)

ug/L = micrograms per liter (see ppb above)

ng/L = micrograms per liter (see ppt above)

< = less than

> = greater than

ADDITIONAL INFORMATION

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. Greenville Municipal Water Authority takes steps to reduce the potential for lead to leach from your pipes into the water. This is accomplished by adding a corrosion inhibitor to the water leaving our treatment facility. However, we 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.

Greenville Municipal Water Authority is currently updating our customer records to identify homes with lead service lines and homes with copper pipes and lead solder installed between 1983 and 1988. If your home meets these criteria or you're not sure, please contact us to schedule a free evaluation of your plumbing material. You may qualify for free lead and copper testing of your drinking water.

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> or on the Authority website at www.gmwa.info. For more information about reducing lead exposure, call the office at 724-588-4340 and we will mail you information.

WHAT IS NOT IN YOUR WATER?

In addition to the substances shown in this report, the Greenville Municipal Water Authority tests your water for many other substances which were NOT detected in your water. These tests are routinely conducted according to regulations and procedures outlined in state and federal regulations for safe drinking water.

EMERGENCY NOTIFICATION:

Please be sure the authority has your current correct contact information so we can contact you in the unlikely event of a service interruption or emergency.

VIOLATIONS:

Greenville Municipal Water Authority failed to meet monitoring requirements for Total Organic Carbon (TOC) during September. This failure was administrative in nature. The correct number of samples were collected and the results of all samples were within acceptable limits, but the result for one sample was inadvertently omitted during reporting. This resulted in a violation.

TOC has no health effects. However, TOC provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver, or kidney problems, and may lead to an increased risk of getting cancer. All disinfection byproducts monitored by GMWA in 2023 as required by PA-DEP were below the MCL. No action by consumers was needed and no alternative water supply was required. If you know someone who may benefit from this information, please share it with them.

No MCL's or Treatment Techniques were exceeded.

We are pleased to report that our drinking water meets Federal and State requirements. We routinely monitor for contaminants in your drinking water according to federal and state laws. The following tables show the results of our monitoring during 2023. The PA-DEP allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data is from prior years in accordance with the Safe Drinking Water Act. In those cases, the date has been noted on the sampling results table. Those items that were detected during our testing process are detailed on pages 5-7.

DETECTED SAMPLE RESULTS

Entry Point Disinfectant Residual – measured at the treatment facility							
Contaminant	Minimum Level Required	Lowest Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Chlorine	0.20	1.38	1.38 – 4.35	ppm	2023	N	Water additive used to control microbes

Total Organic Carbon (TOC) Removal – measured at the treatment facility					
Contaminant	Range of % Removal Required (minimum)	Range of % Removal Achieved	Number of Quarters Out of Compliance	Violation Y/N	Sources of Contamination
TOC	25 – 45*	41.1 – 73.2%	0	N	Naturally present in the environment

*TOC compliance is determined by a running annual average (RAA) computed quarterly. All of the quarterly RAAs met compliance

Chemical Contaminants – measured in the distribution system								
Contaminant	MCL in CCR units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Chlorine (distribution)	4	MRDLG 4	3.15	2.26 – 3.15	ppm	2023	N	Water additive to control microbes
Haloacetic Acids	60	N/A	27.8 (a)	9.7 – 35.2	ppb	2023	N	By-product drinking water chlorination
Total Trihalomethanes	80	N/A	34.5 (a)	23.0 – 40.8	ppb	2023	N	By-product drinking water chlorination

- a) For haloacetic acids and total trihalomethanes, the Level Detected is the highest annual average of the quarterly averages. Compliance is based on a running annual average of quarterly results, not a single sample. The Range of Detections lists the lowest and highest values among all individual samples.

DETECTED SAMPLE RESULTS (continued)

Other Regulated Substances – measured at the treatment facility (continued)								
Contaminant	MCL in CCR units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Calcium	N/A	N/A	27	N/A	ppm	2021	N/A	Natural sources
Dalapon	0.2	N/A	0.0024	0 – 0.0024	ppm	2023	N	Herbicide used to control grasses in a wide variety of crops, including fruit trees, beans, coffee, corn, cotton, and peas
Magnesium	N/A	N/A	6.11	N/A	ppm	2021	N/A	Natural sources
Sodium	N/A	N/A	25.1	N/A	ppm	2021	N/A	Natural constituent of raw water, but its concentration can be increased by pollution sources such as rock salt treatment, run-off, and detergents
Sulfate	250	N/A	18.1	N/A	ppm	2021	N	Natural sources

Lead and Copper – 20 sites were sampled							
Contaminant	Action Level (AL)	MCLG	90 th Percentile Value	Units	# of Sites Above AL of Total Sites	Violation Y/N	Sources of Contamination
Lead (2022)	15	0	1.29	ppb	1 of 20	N	Corrosion of household plumbing
Copper (2022)	1.3	1.3	0.046	ppm	0 of 20	N	Corrosion of household plumbing

DETECTED SAMPLE RESULTS (continued)

Turbidity – a measure of the clarity of the water at the treatment facility						
Contaminant	MCL	MCLG	Level Detected	Sample Date	Violation Y/N	Source of Contamination
Turbidity	TT=1 NTU for a single measurement	N/A	0.157 NTU	10/2/23	N	Soil runoff
	TT= at least 95% of monthly samples \leq 0.3 NTU		99.95%	2023	N	

OTHER MONITORING

Cryptosporidium

Cryptosporidium is a naturally occurring microbial pathogen found in surface water throughout the U.S. Monitoring for Cryptosporidium was conducted under a national program that began in October of 2017 and continued until October 2019 on raw (untreated) water from our source, the Shenango River. Cryptosporidium was detected in 8 of 24 raw water samples, with the highest 12-month mean of 0.074 counts per liter. The results will put GWMA into the lowest category of risk for raw (untreated) water.

Our water treatment processes are designed to remove Cryptosporidium, but complete removal of all organisms at all times cannot be guaranteed. Monitoring of source water indicates the presence of these organisms. Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of illness. For this reason, immuno-compromised individuals (people with weakened immune systems) are encouraged to consult their doctor regarding appropriate precautions to avoid infection. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water.

MONITORING FOR UNREGULATED CONTAMINANTS

The 1996 amendments to the Safe Drinking Water Act (SDWA) require that once every five years, the U.S. Environmental Protection Agency (EPA) issue a new list of no more than 30 unregulated contaminants to be monitored by public water systems (PWSs). The Unregulated Contaminant Monitoring Rule (UCMR) provides EPA and other interested parties with scientifically valid data on the occurrence of contaminants in drinking water. These data serve as a primary source of occurrence and exposure information that the agency uses to develop regulatory decisions. If a PWS monitoring for UCMR4 finds contaminants in its drinking water, it must provide the information to its customers in this annual water quality report. Below is a table of the results of our UCMR4 monitoring conducted from 2018 to 2019. All other contaminants tested during UCMR4 were not detected. More information about unregulated contaminants may be found at: <https://drinktap.org/Water-Info/Whats-in-My-Water>.

UCMR4 MONITORING RESULTS – Detected in 2018-2019

Unregulated Contaminant	Average Detection	Range of Detections	MCL	Information / Sources of Contamination
Manganese, ppb	1.145	0.69 – 1.8	50*	Manganese is a naturally-occurring metal that is essential to the proper functioning of the body. Manganese occurs naturally in both ground and surface water sources, as well as soils that erode into water sources.
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* The PA-DEP already regulates manganese with a “secondary” maximum contaminant limit (SMCL). SMCLs are used when the contaminant of interest has no known health effects, but exceeding the limit may adversely affect the aesthetic quality of the water.