

Scio Township Quality Report



SCIO TOWNSHIP UTILITY DEPT. • 734 369-9350

JULY 1, 2019

2018 Annual Drinking Water Quality Report

We are pleased to present to you this year's Annual Water Quality Report. The USEPA requires water utilities to provide the following information to their customers as part of their Annual Water Quality Report. If you have any questions on this language, you may contact the United States Environmental Protection Agency (USEPA) Safe Drinking Water Hotline at (800) 426-4791.

This report is designed to inform you about the quality water service we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

The State and EPA require us to test our water on a regular basis to ensure its safety. We routinely monitor for contaminants in your drinking water according to Federal and State standards. Many more parameters were tested, but not detected, and are not included in this report. This report includes information on all regulated drinking water parameters detected during calendar year 2018. We are required to monitor for certain contaminants less than once per year because the concentration of these contaminants are not expected to vary significantly from year to year. All of the data is representative of the water quality, even if more than one year old. Your water met all EPA and MDEQ drinking water health standards in 2018.

We will update this report annually and will keep you informed of any problems that may occur throughout the year, as they happen. Copies are available at the Scio Township Hall, 827 N. Zeeb Rd., Ann Arbor, MI, and on our web site at: www.sciotownship.org/government/utility-dept/water-quality-report/2018-annual-drinking-water-quality-report

We invite public participation in decisions that affect drinking water quality. The Scio Township Board of Trustees meets regularly on the second and fourth Tuesdays of the month at 7:00 pm. For more information about your water, or the contents of this report, contact Scott Martin, Utilities Director at (734) 369-9350. For more information about safe drinking water, visit the U.S. Environmental Protection Agency at www.epa.gov/safewater.

1,4-Dioxane (Note from the City of Ann Arbor)

Gelman Sciences (now Pall Corp., a division of Danaher Corp.) polluted groundwater in parts of Washtenaw County, including parts of the city as well as Ann Arbor and Scio Townships, when it improperly disposed of industrial solvents containing 1,4-dioxane between 1966 and 1986. That Pollution has since spread through the aquifer. In 2018, there were no detections of 1,4-dioxane in city drinking water. While this is our 2018 Water Quality report, we want to keep our customers up-to-date with the most recent information. In February 2019, the City of Ann Arbor detected 1,4-dioxane in the drinking water at 0.030 ppb, a concentration much lower than any EPA risk levels. Additional information and analytical test results are posted on their website: www.A2gov.org/A2H2O.

PFAS (Note from the City of Ann Arbor)

Per- and polyfluoroalkyl substances (PFAS), are a group of chemicals that have been classified by the EPA as an emerging contaminant. PFAS have been around since the 1950s, but we didn't know much about their effects until the early 2000's, when scientists began releasing data on PFAS health impacts and their persistence in the environment. For decades, they have been used in many industrial applications and consumer products such as carpeting, waterproof clothing, upholstery, food paper wrappings, fire-fighting foams, and metal plating. They are still widely used today. PFAS have been found at low levels both in the environment and in blood samples of the general U.S. population. PFAS are persistent, which means they do not break down in the environment. They also bioaccumulate, meaning the amount builds up over time in the blood and organs.

Samples collected by the City of Ann Arbor and analyzed by an independent lab each month have shown PFAS in Ann Arbor drinking water at levels significantly below the Health Advisory Level established by EPA and adopted by the State of Michigan. The City continues to monitor for PFAS compounds and remains committed to providing safe drinking water that complies or exceeds all regulatory guidelines.

Currently, granular activated carbon (GAC) filtration is the best available technology for removing PFAS in drinking water. The City has GAC filters, and has been piloting a new type of carbon in several of its filters since November 2017. Due to the success of this pilot, in September 2018 City Council approved a proposal to replace all of the older carbon in the City's filters with the new type of carbon in fiscal year 2019. After this project is completed, the City anticipates that concentrations of PFOS and PFOA will be reliably less than 10 ppt, more restrictive than the most stringent water quality levels established in the U.S. or around the world. Additional information and PFAS results are posted to the website: <https://www.a2gov.org/departments/water-treatment/Pages/PFAS-information.aspx>

Health and Safety Information

Drinking water, including bottled water, may be reasonably expected to contain at least small amounts of contaminants. The presence of these contaminants does not necessarily pose a health risk. Some substances, such as monochloramine and fluoride, are added to the water to improve health. All the detected substances are well within stringent Federal and State limits. *More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline at (800) 426-4791.*

The source of both tap and bottled drinking water includes rivers, lakes, ponds, reservoirs, springs and wells. As water travels over the surface of land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive materials, and can also pick up substances resulting from animal or human activity. Contaminants that might be expected to be in source water (untreated 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 salt and metal, which can be naturally occurring, or result from urban storm water runoff and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, septic systems, and urban or agricultural runoff (i.e., pesticides and herbicides).
- Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

Based on the results of the 2018 testing of all of these contaminants, they were below the level of concern in your water. To ensure that tap water is safe, the EPA prescribes regulations which limit the amount 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.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may 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.

Water Supply and Treatment

The Ann Arbor water supply is comprised of both surface and ground water sources. About 85% of the water supply comes from the Huron River. The remaining 15% is from multiple wells. The water from both the sources is blended at the water treatment plant. Since we use a surface supply, (Huron River water), the United States Environmental Protection Agency (USEPA) and the Michigan Department of Environmental Quality (DEQ) regulations require it to be treated, filtered and disinfected to ensure that any harmful substances are removed. Many water suppliers add a disinfectant to drinking water to kill germs such as giardia and E.coli. Especially after heavy rainstorms, we may add more disinfectant to guarantee that these germs are killed. When treatment is complete, the water is pumped to homes, schools and businesses in Scio Township for resale to our customers.

The following is the official USEPA language on Cryptosporidium: *Cryptosporidium is a protozoan parasite that is too small to be seen without a microscope. It is sometimes found in some surface waters, especially when the waters contain a high amount of fecal waste from run-off or other activities. Those who are infected with this parasite can experience gastrointestinal illness.*

USEPA and the Centers for Disease Control have published guidelines on ways to reduce the risk of Cryptosporidium infection. The guidelines are available from the Safe Drinking Water Hotline at (800) 426-4791.

The City of Ann Arbor's testing indicates the presence of *Cryptosporidium* in our source water, but not in the finished water.

Terms and Abbreviations Used In This Report

- **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as feasible, using the best available treatment technology. MCLs are set at very stringent levels by the State and Federal governments.
- **Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected health risk. MCLG's provide for a margin of safety.
- **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 necessary for the control of microbial contaminants.
- **mg/l:** milligrams per liter or parts per million (ppm) - or one ounce in 7,350 gallons of water
- **µg/l:** micrograms per liter or parts per billion (ppb) - or one ounce in 7,350,000 gallons of water
- **pCi/l:** picocuries per liter (a measure of radioactivity)
- **na:** not applicable • **Avg:** Regulatory compliance with some MCLs are based on running annual average of monthly or quarterly samples.
- **ND:** Not detectable at testing limit • **LRAA:** Locational running annual averages
- **Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
- **Level 1 Assessment:** A study of the water supply to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
- **Level 2 Assessment:** A very detailed study of the water system to identify potential problems and determine (if possible) why an E.coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

Water Quality Test Results *The following regulated substances were detected in some samples.*

Regulated at the Water Treatment Plant: City of Ann Arbor

Regulated Substance	Highest Level Detected	Range of Individual Samples	MCL	MCLG	Source of Contamination
Fluoride	0.78 ppm	0.51-0.78 ppm	4 ppm	4 ppm	Added to water to promote strong teeth. Erosion of natural deposits
Arsenic	3.4ppb	n/a	10	0	Erosion of natural deposits
Nitrate	0.7 ppm	0.3-0.7 ppm	10 ppm	10 ppm	Run-off from fertilizer use. Leaching from septic tanks and sewage. Erosion of natural deposits
Nitrite	0.04 ppm	ND-0.04 ppm	1 ppm	1 ppm	Run-off from fertilizer use. Leaching from septic tanks and sewage
Barium	90 ppb	n/a	2000 ppb	2000 ppb	Erosion of natural deposits; Discharge of drilling wastes and metal refineries
Total Chromium	<6.0 ppb	n/a	100 ppb	100 ppb	Discharge from steel and pulp mills; Erosion of natural deposits
Bromate	6.2 ppb ¹	2.1-12.0 ppb	10 ppb	0 ppb	By-product of ozone disinfection of drinking water
Total Organic Carbon (TOC)	57% removed ¹	50%-64% removed	(TT): 25% min. removal	na	Naturally present in the environment
Chloramines	2.4 ppm ¹	0.01-3.3 ppm	(MRDL): 4 ppm	(MRDLG): 4 ppm	Disinfectant added at Water Plant to control microbes
Gross Alpha	0.817 ±1.35pCi/L	n/a	15 pCi/L	0 pCi/L	Erosion of natural deposits. Tested in 2017. Due again in 2020
Radium 226 & 228	1.39 ±0.91pCi/L	n/a	5 pCi/L	0 pCi/L	Erosion of natural deposits. Tested in 2017. Due again in 2020

Regulated at the Water Distribution System: Township of Scio

Haloacetic Acids (HAA5)	3 ppb ²	0-2 ppb	60	na	By-product of disinfection	No Violations
Total Trihalomethanes (TTHM)	2-3 ppb ²	0-4 ppb	80	na	By-product of disinfection	No Violations
Microbial Contaminants	Number Detected	Level 1 Assessment Triggered?	Level 2 Assessment Triggered?	Violation Yes/No	Typical Source of Contaminant	
Total Coliform Bacteria	0	No	No	No	Naturally present in the environment	

¹ Highest running annual average ² Highest locational running annual average (LRAA)

Turbidity - Regulated at the Water Treatment Plant: City of Ann Arbor

Definitions:

- **Turbidity:** A measure of cloudiness of water. The Ann Arbor Water Treatment staff monitors turbidity because it is a good indicator of the effectiveness of the filtration system. Turbidity must be less than 0.3 NTU in at least 95% of the measurements taken throughout each month. It must never exceed 1.0 NTU.
- **Nephelometric Turbidity Unit (NTU):** A measure of light scattered from particles in the water. Measures drinking water clarity
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

Regulated Substance	Highest Level Detected	Range of Individual Samples	MCL	MCLG	Source of Contamination
Turbidity	0.20 NTU	100% of samples ≤0.3 NTU	(TT): 1 NTU and 95% of samples ≤0.3 NTU	na	Naturally Present in enviro.

SPECIAL MONITORING AND OTHER PARAMETERS OF INTEREST

2018 Special Monitoring: City of Ann Arbor

Parameter Detected	Units	Your Water Results		Likely Source
		Average Level Detected	Range	
1,4-dioxane	ppb	<0.10	N/A	Groundwater contamination from manufacturing process and landfills
N-Nitrosodimethylamine (NDMA)	ppb	<0.48	N/A	Byproduct of disinfection
Perchlorate	ppb	<0.11	N/A	Nitrate fertilizer runoff; contamination from industrial manufacturing process
Sodium	ppm	69	49-89	Erosion of natural deposits; road salt and water softeners
Perfluorooctanesulfonic Acid (PFOS) (ppt = parts per trillion)		5.9	ND-22.0	Consumer products such as Teflon, Scotch Guard, Stain Master, and firefighting foam.
Perfluorooctanoic Acid (PFOA) (ppt) ¹		0.1	ND-2.0	Consumer products such as Teflon, Scotch Guard, Stain Master, and firefighting foam.
Total PFAS-(21 compounds) (ppt)		31.4	ND-88.1	Consumer products such as Teflon, Scotch Guard, Stain Master, and firefighting foam.

¹EPA health advisory level for PFOS and PFOA combined is 70 ppt

Other Water Quality Parameters of Interest: City of Ann Arbor

Parameter Detected	Units	Your Water Results	
		Average Level Detected	Range
Alkalinity, total	ppm as CaCO ₃	63	34-125
Aluminum	ppm	0.019	N/A
Ammonia as N	ppm	<0.10	<0.10-0.15
Arsenic	ppb	3.4	N/A
Calcium	ppm	32	20-50
Chloride	ppm	124	98-164
Conductivity	µmhos/cm	646	502-782
Hardness (CaCO ₃)	ppm	135	96-196
	gpg	7.9	5.6-11.5
Iron	ppm	<0.1	N/A

This table contains both regulated and unregulated contaminants. Unregulated contaminants are those for which the EPA has not established drinking water standards. Monitoring helps the EPA determine where certain contaminants occur and whether it needs to regulate those contaminants.*Nitrite in the distribution system comes from the decomposition of the chloramine disinfectant. Its concentration is a function of water age and increased temperature. Levels are highest in August and September in places far from the plant where the flow is low.

Parameter Detected	Units	Your Water Results	
		Average Level Detected	Range
Magnesium	ppm	14	9-22
Manganese	ppb	140	N/A
Mercury	ppb	<0.20	N/A
Non-Carbonate Hardness	ppm	72	26-131
pH	S.U.	9.3	9.0-9.5
Phosphorus, total	ppm	0.25	0.04-0.54
Potassium	ppm	2.7	N/A
Sulfate	ppm	55	42-78
Temperature	°Celsius	15.3	5.9-25.3
Total Solids	ppm	374	279-409
Zinc	ppb	<50	N/A
*Nitrite in Distribution	ppm	0.038	0.023-0.230

Township of Scio Lead and Copper Results

Copper and Lead - **Regulated at the Customer's Tap** All samples taken were well within the strict Federal and State limits. The data is from the 2017 testing conducted in accordance with regulations. At risk homes are defined by the USEPA as homes with copper plumbing installed between 1982 - 1988 using lead solder. Lead levels can easily be eliminated by flushing the cold water prior to use. NEVER use the hot water for drinking or cooking purposes.

Action Level (AL)	MCLG	Results from 2017 monitoring period		# of Samples Required	Next Monitoring Period	Source of Contamination
		90th Percentile	Number of Samples Above Action Level			
Lead 15 ppb	0 ppb	1.5 ppb	0	5	Take sample Within These Dates	Lead-Corrosion of household plumbing system Erosion of natural deposit
Copper 1.3 ppm	1.3 ppm	.040 ppm	0		6/1/2019 and 9/30/2019 Submit by 10/10/2019	Copper-Corrosion of household plumbing system Erosion of natural deposit

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. Scio Township Utility Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in our customers' private plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at: <http://www.epa.gov/safewater/lead>.

Township of Scio Chlorine Residual Monitoring Report 2018





Scio Township is required to monitor and sample the water supply each month for free and total chlorine. There are 10 samples collected from the distribution system in 5 separate locations.

	MRDL	MRDLG	Range Results	Your Water	Source
Free Chlorine (mg/L):	4	4	0-0	0	Water additive used to control microbes
Total Chlorine (mg/L):	4	4	0.57-2.2	0.83	

Water Costs Money . . . Don't Waste it!

A dripping faucet or fixture can waste 3 gallons a day . . . a total of 1095 gallons a year.

WASTE PER QUARTER AT 60 PSI WATER PRESSURE

Diameter of Stream	Gallons	Units (1000 G)	Dollars
 1/4"	1,181,500	1,181.5	\$20,085.50
 3/16"	666,000	666.	\$11,322.00
 1/8"	296,000	296.	\$5,032.00
 1/16"	74,000	74.	\$1,258.00



A continuous leak from a hole this size would, over a three month period, waste water in the amounts shown above. Most common cause: A running toilet – A low cost, easy fix.

OWNERS OF WATER DRIVEN BACK UP UNIT SUMP PUMPS

***** PLEASE BE AWARE *****

Residents who choose to use the water pressure-driven, sump pump back up units need to be fully aware of the following information:

- If your home loses electricity and the back-up unit becomes operational, OR
- If the unit has a float that sticks in the open position causing the unit to continually operate,

YOU are drawing water from the municipal supply. That is how the unit is designed to work. The municipal water supply provides the water pressure to keep the sump pump operational. If the unit works correctly, your sump is doing its job of drawing the water out and safely discharging. If the backup unit should continue to draw on the municipal supply and not shut off, you may be using an inordinate amount of municipal water. That water is also passing through the primary meter of your home. Sewer charges are computed on the water usage on that meter.

It is possible for the homeowner to use large amounts of water without being aware of the problem. Please understand how your back-up unit works and monitor it with power outages and storm events.

The Township has had a number of these problems occur because the homeowner is unaware of the backup unit's function or that the unit is continuing to operate after an event has concluded. In the past, a resident incurred a bill of over \$12,000 during such an event. Please remember: The homeowner is responsible for all charges that incur.

ADDITIONAL INFORMATION

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Office Hours: 8:00 AM to 5:00 PM

Emergency After Hours: 4:00 PM to 8:00 AM
(734) 651-4770 Leave a **BRIEF** message with your
address, problem, and return phone number.
You will be charged for after hours on-call services.