



Ann Arbor Charter Township Utilities Department

2016 Drinking Water Quality Report

Your Award Winning Water



We, at the Ann Arbor Charter Township Utilities Department, are pleased to share with you our annual drinking water quality report. The U.S. Environmental Protection Agency (EPA) and Michigan Department of Environmental Quality (MDEQ) require that all water supplies produce an annual report that informs its customers about the quality of their drinking water. This report will share an informational overview about the water that we have provided to you during 2016. It explains where your drinking water comes from, what is in it and how we keep it safe.

Although this report is required, we feel it is a testament of the exceptional work your water utility professionals provide. As professionals they understand the importance that the water supply plays in the overall quality of life for our community. We are dedicated to providing our customers with the best quality drinking water possible and we **continue to meet or exceed** all state and Federal regulatory requirements. In fact, the water supplied to us by Ann Arbor won the title **Best Tasting Water in Michigan**, an annual award given by the American Water Works Association.

To help ensure the safety of your water, our Utilities Department, in cooperation with the City of Ann Arbor, routinely monitors for contaminants in your drinking water. We participate in voluntary programs which improve our organization and establish more stringent water quality goals. Our monitoring programs far exceed those required to assure the quality of your drinking water. Sound water management is a critical component to sustainable economic growth and improved quality of life in the Ann Arbor region.

Sincerely,

Rick Judkins
Director
Utilities Department

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Where Your Tap Water Comes From

Ann Arbor Charter Township receives its water supply from the City of Ann Arbor. The City of Ann Arbor's source water is comprised of both surface and ground water sources. About 85% of the water supply comes from the Huron River with the remaining 15% provided by multiple wells located south of Ann Arbor. The water from both the sources is blended at the water treatment plant. Since the City of Ann Arbor uses a surface water supply, the Huron River, USEPA and Michigan Department of Environmental Quality (DEQ) regulations require it to be treated, filtered, and disinfected to ensure that any harmful substances are removed. When the treatment is complete in the City of Ann Arbor, the water is pumped to Ann Arbor Township, where we pump the water to homes, schools and businesses in Ann Arbor Township and a portion of Superior Township.



Do I Need to Take Special Precautions?



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 and the Center for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the **Safe Water Drinking Hotline: (800) 426-4791**.

Source Water Assessment Program

All sources of drinking water may be susceptible to contamination. Federal regulations require states to develop and implement Source Water Assessment Programs (SWAP) to compile information about potential sources of contamination to their source water supplies. This information allows us to better protect our drinking water sources.

In 2004, the Ann Arbor Charter Township Utilities Department in cooperation with the City of Ann Arbor and MDEQ completed a Source Water Assessment on our system. Using the information from the assessment, a susceptibility rating for each water source was determined by considering the number and location of all potential sources of contamination to our source water. The Huron River was rated "high" and the wells were rated "moderate." These ratings do not mean that source water contamination has or will occur in our water supply; rather, they indicate a need for us to continue to carefully monitor and protect our drinking water sources.



Drinking Water Quality

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants allowed in the water provided by public water systems. FDA regulations establish limits for contamination 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 EPA's Safe Drinking Water Hotline at (800) 426-4791 or visiting www.epa.gov/safewater.



How Does Water Become Polluted?

The sources of drinking water - both tap water and bottled water - include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source 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 stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- **Radioactive contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Contaminants of Concern

Lead:

If present, elevated levels of lead 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. 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. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the EPA's Safe Drinking Water Hotline at (800) 426-4791 or visiting water.epa.gov/drink/info/lead/index.cfm

Cryptosporidium:

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Current test methods do not allow 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. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water. Our monitoring indicates the presence of these organisms in our source water, but not in the finished water.

1,4-Dioxane:

Groundwater in parts of Washtenaw County, including some areas under the City of Ann Arbor and Ann Arbor and Scio townships, is polluted with the industrial solvent 1,4-Dioxane due to Gelman Sciences', not Pall Life Sciences (PLS), improper disposal of wastewater containing the chemical seeped through soil and rock layers into the groundwater and has since spread. It is important to noted, however, the Ann Arbor Charter Township drinking water is safe. To date, no 1,4-Dioxane has ever been detected in the municipal drinking water supply.

Violation Notice

What happened? What is being done?

We inadvertently collected a sample during March instead of February. We are making every effort to assure this does not happen again. We will be collecting follow-up samples in May.

What should I do?

There is nothing you need to do at this time. This is not an emergency. You do not need to boil water or use an alternative source of water at this time. Even though this is not an emergency, as our customers, you have the right to know what happened and what we are doing to correct the situation.

The table below lists the contaminants we did not properly test for, how often we are supposed to sample for these contaminants, how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the dates we will collect follow-up samples.

Contaminant	Required Sampling Frequency	Number of Samples Taken	When All Samples Should Have Been Collected	Date Additional Samples Will Be Collected
TTHM	1 sample every 3 months	0	February 1, 2017 – February 28, 2017	May 1, 2017 – May 31, 2017
HAA5	1 sample every 3 months	0	February 1, 2017 – February 28, 2017	May 1, 2017 – May 31, 2017

For more information, please contact Mr. Rick Judkins, the Operator-in-Charge, at 734-355-0304.

The table below lists the contaminants we did not properly test for, how often we are supposed to sample for these contaminants, how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the dates we will collect follow-up samples.

Providing Input

The USEPA requires water utilities departments to provide certain information within this report. This information is generic and may or may not apply to the drinking water in Ann Arbor Charter Township. It is very important to us that this report is clear, easy to understand and provides the information that our customers find useful. Therefore, your input is appreciated. If you have any comments or ideas, we would love to hear them. You may contact us at (734) 663-3418 or email rjudkins@aatwp.org

PUBLIC NOTICE

TO ANN ARBOR CHARTER TOWNSHIP PROPERTY OWNERS OR OCCUPANTS:

If you experience an overflow or backup of the sewage disposal system or storm water system, you must file a written claim with Ann Arbor Charter Township within 45 days after the overflow or backup was discovered. Notice must be mailed to the Utilities Department Supervisor at 3792 Pontiac Trail, Ann Arbor, Michigan 48105, (734) 663-3418. Failure to provide the required notice will prevent recovery of damages. Contact Ann Arbor Charter Township immediately upon discovery of an overflow or backup to obtain a claim form. While, you do not need to use the Township's form to file a written claim, it should include your name and address, the address of the affected property, the dates of the overflow or backup, the date the backup or overflow was discovered, and a brief description of the overflow or backup.



During the past year, Ann Arbor Charter Township in coordination with the City of Ann Arbor has performed thousands of water samples. This report includes information on all regulated drinking water parameters during the calendar year of 2016. Many more parameters were tested, but not detected, and are not included in this report.

DEFINITIONS:

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

Grains per Gallon (gpg): A unit of water hardness defined as 1 grain of calcium carbonate dissolved in 1 US gallon of water.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's 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. MCLG's allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL): The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of disinfectant in drinking water below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial disinfectants.

n/a: not applicable

ND: Not detectable at or above the minimum reporting level - laboratory analysis indicates that the constituent is not present.

NTU = Nephelometric Turbidity Unit; Turbidity is a measure of cloudiness of water. The Ann Arbor Water Treatment staff monitors it because it is a good indicator of the effectiveness of the filtration system.

pCi/L: picocuries per liter (a measure of radioactivity)

ppm: parts per million or milligrams per liter - or one ounce in 7,350 gallons of water.

ppb: parts per billion or micrograms per liter - or one ounce in 7,350,000 gallons of water.

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

REGULATED CONTAMINANTS THAT WERE DETECTED

Detected Contaminants	Your Water Results		Regulatory Requirements		Likely Source of Contamination
	Highest Level Detected	Results Range	EPA Limit (MCL, TT, or MRDL)	EPA Goal (MCLG or MRDLG)	
Disinfection By-products, Disinfectant Residuals, and Disinfection Byproduct Precursors					
Bromate	6.3 ppb ¹	1.8 – 8.6 ppb	10 ppb	0 ppb	By-product of ozone disinfection
Chloramines ³	2.4 ppm ¹	0.07 – 3.9 ppm	(MRDL) 4 ppm	(MRDLG) 4 ppm	Disinfectant added at water plant
Haloacetic Acids ³ (HAA5)	2.6 ppb ²	>1.0 – 4.3 ppb	60 ppb	n/a	By-product of disinfection
Total Organic Carbon (TOC)	55% Removed ¹	45% - 62% removed	(TT) 25% minimum removal	n/a	Naturally present in the environment
Total Trihalomethanes (TTHM) ³	3.58 ppb ¹	1.2 – 5.1 ppb	80 ppb	n/a	By-product of disinfection
Radioactive Contaminants (tested in 2014)					
Radium 226 & 228	2.21 ±0.87 pCi/L	n/a	5 pCi/L	0 pCi/L	Erosion of natural deposits
Inorganic Contaminants					
Barium	19 ppb	n/a	2000 ppb	2000 ppb	Erosion of natural deposits
Chromium (total)	<0.9 ppb	n/a	100 ppb	100 ppb	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride	0.86 ppm	0.13 – 0.86 ppm	4 ppm	4 ppm	Erosion of natural deposits; water additive which promotes strong teeth
Nitrate	0.9 ppm	0.4 – 0.9 ppm	10 ppm	10 ppm	Run-off from fertilizer use; leaching from septic tanks and sewage
Nitrite	0.012 ppm	ND – 0.022 ppm	1 ppm	1 ppm	Run-off from fertilizer use; leaching from septic tanks and sewage
Microbiological Contaminants					
Total Coliform ³	0% out of 48 tested	0%	≤ 5% positive per month	0 positive	Naturally present in the environment
Turbidity	0.24 NTU	100% of samples ≤0.3 NTU	1 NTU and 95% of samples ≤0.3 NTU	n/a	Naturally present in the environment

¹ Highest Running Annual Average

² Highest locational running annual average

³ Measured in the Distribution System

2015 Lead and Copper Results

Water that comes out of the drinking water plant has no detectable lead; however, test results from homes in our community show there can be low levels of lead and copper in tap water, primarily caused by corrosion of household pipes, solder and faucets. The water plant adjusts the chemistry of the water leaving the plant to minimize the amount of corrosion that can occur, thus helping to reduce the risk to you!

No at-risk homes that were sampled exceeded the lead or copper action level. At-risk homes are defined by the EPA as homes with copper plumbing installed between 1982 - 1988 using lead solder. Lead levels can be easily eliminated by flushing the cold water prior to use.

Regulated at the Customer's Tap	Your Water Results		Regulatory Requirements		Likely Source of Contamination
	Highest Level Detected	Results Range	Action Level (AL)	EPA Goal (MCLG)	
Copper – 2015	5.9 ppb	None above AL	1300 ppb	1300 ppb	Corrosion of household plumbing
Lead – 2015	1.0 ppb	None above AL	15 ppb	0 ppb	Corrosion of household plumbing

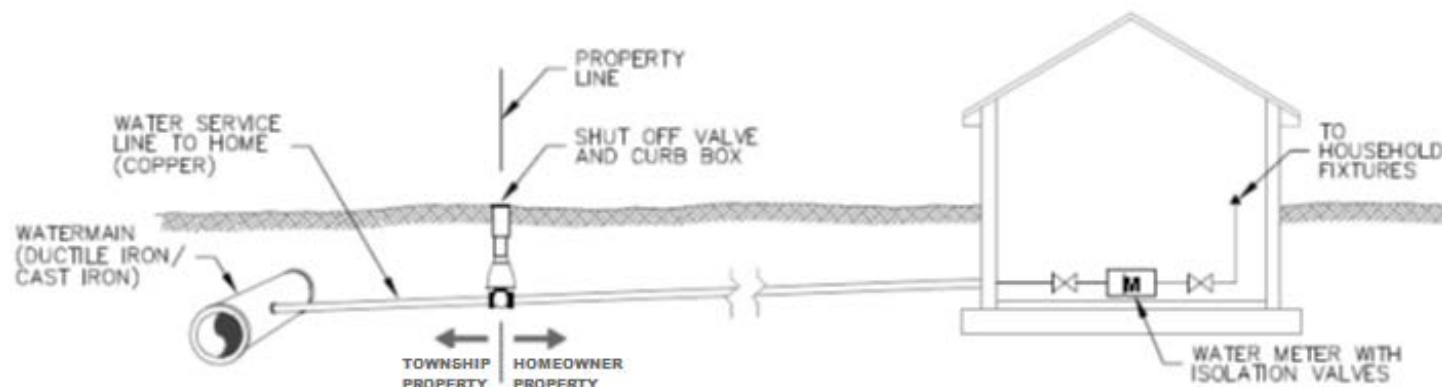
Lead Awareness in Our Community

There has been a lot of recent news coverage about lead in the Flint drinking water system. To address any local concerns, we would like to provide some information that helps to clarify how our drinking water system is different.

The unfortunate situation in Flint was caused, in part, when they switched their drinking water supply source, did not use any corrosion control, and lowered the pH of the water. This caused the lead pipes and fittings in their water system to lose their protective coating and then corrode, releasing lead and iron into the water. Our water supply has been softened since its inception and this process has optimized corrosion control. By controlling the corrosivity of the water, the amount of lead in your drinking water is kept to a minimum.

A diagram has been included to illustrate a typical residential service line installation.

Typical Residential Service Line Installation



Healthy Household Plumbing

What you can do to minimize lead in your home:

- **Flush your pipes before drinking.** Anytime the water in a faucet has not been used for six hours or longer, flush your cold-water pipes by running the water until it becomes noticeably cold.
- **Do not cook with or drink water from the hot water tap.** Hot water can dissolve lead more quickly than cold water. If you need hot water, draw water from the cold tap and heat it on the stove or in the microwave.
- **Remove and clean your faucet screen and aerator.** Rinse out any debris then reattach them. Doing this once a month will reduce the possibility that small particles that may contain lead will build up in your faucet.
- **Consider replacing lead-containing plumbing fixtures.** A new law came into effect in 2014 limiting the amount of lead in brass faucets and plumbing.

2016 SPECIAL MONITORING

Detected Contaminants	Your Water Results		Likely Source of Contamination
	Average Level Detected	Range	
1,4-dioxane	<0.07 ppb	n/a	Groundwater contamination from manufacturing process and landfills
N-Nitrosodimethylamine (NDMA)	0.0029 ppb	n/a	By-product of disinfection
Perchlorate	0.09 ppb	n/a	Nitrate fertilizer runoff; contamination from industrial manufacturing process
Sodium	60 ppb	56 – 63 ppb	Erosion of natural deposits; road salt and water softeners

OTHER WATER QUALITY PARAMETERS OF INTEREST

Parameter	Your Water Results	
	Average Level Detected	Range
Alkalinity, total as CaCO ₃	55 ppm	33 - 125 ppm
Aluminum	0.012 ppm	n/a
Ammonia as N	0.11 ppm	<0.10–0.19 ppm
Arsenic	<1.0 ppb	n/a
Calcium	36 ppm	24 – 70 ppm
Chloride	124 ppm	94 – 154 ppm
Conductivity (units µmhos/cm)	631	545 – 757
Hardness (Calcium Carbonate)	137 ppm	101 – 210 ppm
	8.0 gpg	5.9 – 12.3 gpg
Iron	<0.1 ppm	n/a
Lead	<1.0 ppb	n/a

Parameter	Your Water Results	
	Average Level Detected	Range
Magnesium	25 ppm	10 – 39 ppm
Manganese	<2.0 ppb	n/a
Mercury	<0.1 ppb	n/a
Non-Carbonate Hardness	83 ppm	30 – 132 ppm
pH	9.3 S.U.	8.9 – 9.4 S.U.
Phosphorus, total	0.21 ppm	0.10 - 0.35 ppm
Potassium	3.6 ppm	n/a
Sulfate	56 ppm	45 – 71 ppm
Temperature	15.8 °C	6.7 – 25.5 °C
Total Solids	401 ppm	328 – 507 ppm
Zinc	<1.0 ppb	n/a

Get Involved

The Utilities Director regularly attends the scheduled Board of Trustees meetings of where the water system is occasionally discussed. The public is welcome and encouraged to attend to learn more about their water system or to discuss any concerns they may have.

The Ann Arbor Charter Township Board of Trustees meets on the third Monday of each month. The meetings are open to the public, and unless announced otherwise, are at 7:30 PM in the Ann Arbor Charter Township Hall located at 3792 Pontiac Trail.

Additional Information and Contacts

To receive additional copies of this report or if you have any questions about this report or would like to know anything further about your water and/or water utilities please feel free to call us:

Rick Judkins
Utilities Director
(734) 663-3418
rjudkins@aatwp.org

In the event of an emergency, such as water main breaks, emergency water turn-offs and sanitary or storm sewer back-ups, please call:

DURING NORMAL BUSINESS HOURS: (734) 663-3418

AFTER HOURS EMERGENCY: (734) 663-0995

<http://www.aatwp.org>