



CITY OF

Ann Arbor

2011 Drinking Water Quality Report

Dear Customer,

The City of Ann Arbor is once again proud to present to you our Annual Drinking Water Quality Report.

Why did you get this report?

Drinking water regulations require the City to mail this information to customers each year — it's the law!

Why should you read it?

Let's face it; this report is not going to be on any Bestseller List. It contains required wording that can be somewhat technical; however, the quality of our water is important and we want to keep you informed.

What does it contain?

This report uses data collected in 2011 to summarize information about your water supply sources, the water system facilities that deliver water to your tap, and the quality of your drinking water. Also included is information about programs underway that are helping to ensure that you have safe and dependable drinking water.

What if you have questions?

Please contact Water Treatment Services at (734) 794-6426 if you would like help understanding the information provided or have questions about your drinking water. This report is also available online at www.a2gov.org/A2H2O.

Get involved!

The Ann Arbor City Council meets at 7:00 p.m. on the 1st and 3rd Mondays of every month in the City Hall Council Chamber, 2nd floor of the Guy C. Larcom, Jr. building.

Quick Reference

CUSTOMER SERVICE

(734) 994-2700

customerservice@a2gov.org

WATER QUALITY & TREATMENT

(734) 794-6426

City of Ann Arbor

A²H₂O



Only Tap Water
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www.a2gov.org/A2H2O



Staff of the Ann Arbor Drinking Water Plant
photos by Leisa Thompson

Water Quality Test Results

During the past year, we have taken thousands of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. This report includes information on all regulated drinking water parameters detected during calendar year 2011. Many more parameters were tested, but not detected, and are not included in this report.

Regulated Parameter	Your Water Results	Results Range	EPA Limit (MCL, TT, or MRDL)	EPA Goal (MCLG or MRDLG)	Likely Source
Barium	14 ppb	n/a	2000 ppb	2000 ppb	Erosion of natural deposits
Bromate	4.6 ppb	2.0 – 7.6 ppb	10 ppb	0 ppb	Byproduct of ozone disinfection
Chloramines	2.4 ppm	0.7 – 3.2 ppm	(MRDL): 4 ppm	(MRDLG): 4 ppm	Disinfectant added at Water Plant
Radium 226 & 228	1.7 pCi/L	n/a	5 pCi/L	0 pCi/L	Erosion of natural deposits
Fluoride	1.04 ppm	0.6 – 1.04 ppm	4 ppm	4 ppm	Erosion of natural deposits; water additive which promotes strong teeth
Haloacetic Acids (HAA5)	7.4 ppb	1.3 – 14 ppb	60 ppb	n/a	Byproduct of disinfection
Nitrate	0.8 ppm	0.6 – 0.8 ppm	10 ppm	10 ppm	Runoff from fertilizer use; leaching from septic tanks and sewage
Total Coliform Bacteria	2%: 2 positives in May 2011 (out of 133 tested)	positive / negative	≤ 5% positive per month	0 positive	Naturally present in the environment
Total Organic Carbon (TOC)	51% removed	41 – 69% removed	(TT): <25% removed	n/a	Naturally present in the environment
Total Trihalomethanes (TTHM)	4.0 ppb	0.5 – 8.1 ppb	80 ppb	n/a	Byproduct of disinfection
Turbidity	highest detected: 0.17 NTU	100 % of samples ≤0.3 NTU	(TT):1 NTU and 95% of samples ≤0.3 NTU	n/a	Soil erosion

Lead and Copper in Drinking Water

Although there is no detectable lead in our source water, tests from household taps show there can be low levels of lead and copper in tap water, primarily because of corrosion of household plumbing systems. 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. The City of Ann Arbor is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for thirty seconds to two 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 www.epa.gov/safewater/lead.

Regulated at the Customer's Tap	Your Water Results	Results Range	Action Level	EPA Goal (MCLG)	Likely Source
Lead	4 ppb	0 results above AL (51 tested)	15 ppb	0 ppb	Corrosion of household plumbing
Copper	92 ppb	0 results above AL (51 tested)	1300 ppb	1300 ppb	Corrosion of household plumbing

Did we meet all monitoring requirements in 2011?

In February 2011, one of the routine four monthly Total Organic Carbon (TOC) samples was collected from an incorrect location. The city of Ann Arbor did not discover the error until after the monthly monitoring period had ended. At no time was the quality of the water affected. TOC has no health effects; however, it provides a medium for the formation of disinfection byproducts.

Other Parameters of Interest	Sample Average	Results Range	Likely Source
1,4-dioxane	ND	n/a	Groundwater contamination from manufacturing process and landfills
Hardness (Calcium Carbonate)	138 ppm	120 – 156 ppm	Naturally occurring minerals; controlled by water treatment Hardness conversion: multiply ppm by 0.058 to get grains per gallon
Sodium	61.5 ppm	51 – 72 ppm	Naturally occurring minerals; road runoff

Terms used in this report:

- **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.
- **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.
- **n/a:** Not Applicable
- **Not Detected (ND):** Not Detected at or above the minimum reporting level - laboratory analysis indicates that the constituent is not present.
- **Nephelometric Turbidity Units (NTU):** Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.
- **pCi/L:** picocuries per liter (a measure of radioactivity).
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.
- **1 part per million (ppm)** or milligrams per liter (mg/L): corresponds to one minute in two years or a single penny in \$10,000. 1 ppm = 1000 ppb
- **1 part per billion (ppb)** or micrograms per liter (µg/L): corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.



Got Fish?

For more information on water quality parameters that may be of interest to aquarium owners, visit www.a2gov.org/A2H2O.

Message from the EPA

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the Michigan Department of Environmental Quality (MDEQ) prescribe regulations that limit the amount of certain contaminants allowed in the water we drink.

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. USEPA and CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the **Safe Drinking Water Hotline (1-800-426-4791)**.

Impurities that may be present in untreated water include:

- 1) Microbial contaminants, such as viruses and bacteria which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- 2) 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.
- 3) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- 4) 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, agricultural application, and septic systems.
- 5) Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Cryptosporidium is a protozoan parasite that is too small to be seen with a microscope. It is sometimes found in surface waters, especially when the waters contain a high amount of fecal waste from runoff or other activities. Those who are infected with this parasite can experience gastrointestinal illness. The USEPA and the Center for Disease Control (CDC) have published guidelines on ways to reduce the risk of *Cryptosporidium* infection. The guidelines are available from the **Safe Drinking Water Hotline (1-800-426-4791)**.

We perform monthly monitoring for *Cryptosporidium*, and no detectable levels have been found in samples collected from Ann Arbor's source waters.

2011 Drinking Water Quality Report

Important information enclosed



City of Ann Arbor
Water Treatment Services
919 Sunset Road
Ann Arbor, MI 48103

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Attention property owners and businesses:

If other people, such as tenants, residents, students, patients or employees receive water from you, please post this report in a public location such as a lobby, laundry room, or community room.

From Source to Tap

We work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future. For more information on how you can help protect our source water, please visit www.a2gov.org/A2H2O.



Where does my water come from?

Our 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. The water from both sources is blended at the water treatment plant.

Educational Information

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. 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 USEPA's Safe Drinking Water Hotline at 1-800-426-4791 or visiting www.epa.gov/safewater.

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 any potential sources of contamination to their source water supplies. This information allows us to better protect our drinking water sources. In 2004, the MDEQ performed 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.