2008 Annual Drinking Water Quality Report

Ann Arbor Charter Township Utilities Department

A Splash of Quality – Analyzing Your Drinking Water

In accordance with the United States Environmental Protection Agency (USEPA) and the Michigan Department of Environmental Quality (MDEQ), the Ann Arbor Charter Township Utilities Department is issuing the results of monitoring done on its drinking water for the period from January 1, 2008, to December 31, 2008. Although a statutory requirement, Ann Arbor Charter Township considers it also a priority to inform you, our customers, about the safety of the water you drink and the importance of protecting our precious water resources. Included in this report are important details and other information about where your drinking water comes from, what it contains, how it compares to standards set by regulatory agencies and the risks our water testing and treatment are designed to prevent.

The staff members of the Ann Arbor Charter Township Utilities Department are strongly committed to providing you with the safest, most reliable water supply available. We are additionally committed to providing you with information about your water supply because customers who are well informed are our best allies in supporting improvements necessary to maintain the highest drinking water standards. Sound water management is a critical component of sustainable economic growth and improved quality of life in the Ann Arbor region. Protection of water resources and maintaining our excellent water quality are essential to public health and well-being.

We take great pride in not only meeting all federal and state drinking water regulations, but in reaching higher goals. 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. This report records the hard work by our employees to bring you water that is absolutely safe.

Ann Arbor Charter Township receives its water supply from the City of Ann Arbor, and in turn delivers a portion of the water supply to Superior Charter Township. The City of 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 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 MDEQ 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.

The following is official USEPA language on contaminants that may be in untreated water:
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 and through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that might be expected to be in source water - untreated water - include: microbial contaminants, such as viruses and bacteria; inorganic contaminants, such as salts and metals; pesticides and herbicides; organic chemical contaminants; including synthetic and volatile organic chemicals; and radioactive contaminants, which can be naturally occurring.

In order to ensure that tap water is safe to drink, 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.

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 Safe Drinking Water Hotline at (800) 426-4791.

Water Quality Concerns for Certain Individuals

The following is official USEPA language on low resistance to infection:

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 persons and infants can be particularly at risk from infections. These people should seek advice about drinking water from their healthcare providers. Environmental Protection Agency / Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Water Drinking Hotline: (800) 426-4791.

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 Ann Arbor drinking water. 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

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

Samples have been collected from the source and no detectable levels of Cryptosporidium were found.

Required Consumer Confidence Report (CCR) Statement Addressing Lead in Drinking Water

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. Ann Arbor Charter Township Utilities Department is responsible for providing high quality drinking water but cannot control the variety of materials used in your individual 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.

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. However, you do not need to use the Township's form to file a written claim. The written claim 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.

Water Conservation Tips

Water conservation measures are an important first step in protecting our water supply. Such measures not only save the supply of our source water but can also save you money by reducing your water bill. Here are a few suggestions:

Conservation measures you can use inside your home include:

- Fix leaking faucets, pipes, toilets, etc.
- Replace old fixtures; install water saving devices in faucets, toilets, and appliances.
- Wash only full loads of laundry.
- Do not use the toilet for trash disposal.
- Take shorter showers

You can conserve outdoors as well:

- Water the lawn and garden in the early morning or evening.
- Use mulch around plants and shrubs.
- Repair leaks in faucets and hoses.

Ann Arbor Charter Township Utilities Department has highly trained staff members that hold many licenses and certifications issued by the State of Michigan. In addition our Utilities Department staff are active members in the following associations:

American Water Works Association (AWWA)
AWWA Research Foundation
Michigan Rural Water Association

We also share affiliations and partnerships with
Michigan Coalition for Clean Water
Water Environment Research Foundation

Source Water Assessment and Protection Plan

The Ann Arbor Charter Township Utilities Department in cooperation with the City of Ann Arbor has completed a Source Water Assessment and Protection Plan. This plan determines the protection areas for all our sources of supply, assesses the potential for contamination and develops plans for improving protection of those areas. The assessments for both the river and groundwater supplies included determining the susceptibility or relative potential of contamination impacting each source of supply. A six–tiered scale was used to rate the potential for contamination. The scale ranges from "very low" to "high." The susceptibility rating is based on the geologic sensitivity and the number and types of potential contaminant sources located within our source water protection areas. The susceptibility of the Huron River supply was rated "high" and the wells were rated "moderate."

Because we live in an urban setting, our source water is susceptible to contamination from both point (direct) and non-point (indirect) sources of pollution. Since the inception of the Clean Water Act in 1977, there has been a steady decline in point source pollution in our river. The Act set limits and permit requirements for public and private entities that directly discharge into our rivers, lakes and streams. These requirements have greatly reduced the amount of point source pollution entering our water bodies. The biggest threat to the Huron River supply now comes from non-point source pollution. When water from rain and snowmelt ("stormwater") runs off a piece of property it flows directly to the Huron River or through a storm drain system that carries it to the Huron River. As the water travels towards the river, it picks up pollutants such as oil and grease from vehicles, road salt, pet waste, dirt and fertilizer. All of these pollutants affect the water quality in the Huron and can have significant impact on the drinking water treatment process. For example, phosphorous and other nutrients in fertilizers can cause an increase in nuisance aquatic vegetation and algal blooms, and sediments from runoff make the water turbid (cloudy). It is both costly and difficult to treat nutrient-rich and turbid water.

What is the Ann Arbor Charter Township doing to reduce non-point source pollution?
The Township is making efforts to protect our drinking water source from non-point source pollution. The Township routinely provides educational materials to all residents and businesses. This information may be obtained by calling Ann Arbor Charter Township Utilities Department at 663-3418.

Notice of Violation

On January 8, 2008, one of the 26 water filters used in the City of Ann Arbor's Water Treatment Plant unexpectedly discharged water with high turbidity into one of the water treatment plant's two filtered water chambers. Turbidity standards were exceeded at the water treatment plant for 42 minutes. Bacteriological testing of water samples indicated that the safety of the drinking water was not jeopardized during the event.

FREQUENTLY ASKED QUESTIONS – Q & A

Q: Has our water ever been tested for pharmaceuticals and personal care products (PPCP)?

A: Yes. Through grants from the Michigan Department of Environmental Quality (MDEQ), in 2004 and 2005 the City of Ann Arbor completed studies to determine if these contaminants were present in our water. We tested both our source water and finished drinking water for the presence of 33 pharmaceutical and personal care products (PPCP). Of the 33 contaminants, 12 were detected in finished water. All results were in the parts per trillion range.

In 2008, the City of Ann Arbor tested the finished drinking water for 8 endocrine disrupting compounds, including Bisphenol A (BPA). None of these compounds were found to be present in the drinking water.

To read the City of Ann Arbor's PPCP study reports or to see the 2008 endocrine disrupting chemical test results please visit the following webpage: **http://www.a2gov.org/government/publicservices/water_treatment/Pages/default.aspx**

To help prevent PPCPs from entering the drinking water supply, please dispose of prescription and over-the counter drugs correctly. Never flush any drugs down the toilet. Take used over the counter and prescription medications back to participating pharmacies for disposal, or wrap medication in plastic bags, seal with duct tape and them dispose in the trash. For information about proper disposal, visit **http://www.dontflushdrugs.com**

Q: What are total coliform bacteria?

A: Total coliform bacteria are a collection of microorganisms that are naturally present in the environment. Coliform bacteria are found in soil, water, and in the intestines of warm blooded animals. Coliform bacteria are not harmful themselves, but are used as an indicator that other, potential disease causing organisms may be present. The water treatment process effectively kills coliform bacteria. However, events such as a water main break or a loss of pressure in the water distribution system may allow these bacteria to enter water lines through cracks in pipes or back-siphoning from a residential plumbing system. Boiling water vigorously for one minute will kill these bacteria and water safe to drink.

Q: Are meetings about the water system open to the public?

A: Yes. The Utilities Director, Rick Judkins, regularly attends scheduled Board of Trustees meetings where the department 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.

Q: What is Ann Arbor Charter Township Utilities Department doing to safeguard my family and protect its drinking water?

A: The Ann Arbor Charter Township Utilities Department in cooperation with the City of Ann Arbor Water Treatment Plant conducts extensive routine monitoring of water quality. Our testing program far exceeds requirements and we are vigilant against potential threats to our water system. In addition, we are following recommendations made by our local police, our state regulatory agency, the American Water Works Association and other state and federal agencies to enhance the physical security of our water system. We are following recommendations made by our local police, our state regulatory agency, the American Water Works Association and others. We will continue to work to protect the Charter Township of Ann Arbor and its customers from potential threats to the drinking water. Complying with the Bioterrorism Act of 2002, an extensive analysis and vulnerability assessment of your drinking water system was completed in March of 2003. As a result of this assessment, a number of recommendations have been implemented and additional items are currently underway.

Water Quality Test Results

The following regulated substances were detected in some samples

This report is a summary of the quality of water provided to you last year. Included are details about what the water contains, and how it compares to standards set by regulatory agencies. In coordination with the City of Ann Arbor we monitor for approximately 280 different substances and contaminants in the drinking water. The vast majority of these **were not detected in your water.**

Results were gathered from tests performed by the City of Ann Arbor Water Utilities certified lab.

Please note that 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.

Definitions: The following tables contain scientific terms and measures, some of which may require explanation

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

ALG Action Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. ALG's allow for a margin of safety.

Avg Average: Regulatory compliance with some MCLs are based on running annual average of monthly or quarterly samples.

MCL Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the Maximum Contaminant Level Goal as feasible using the best available treatment technology.

MCLG Maximum Contaminant Level Goal: 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.

mg/l milligrams per liter or parts per million – or one ounce in 7,350 gallons of water.

µg/l micrograms per liter or parts per billion – or one ounce in 7,350,000 gallons of water.

MRDL Maximum Residual Disinfectant Level: the highest level of disinfectant allowed in drinking water.

MRDLG Maximum Residual Disinfectant Level Goal: the level of disinfectant in drinking water below which there is no known or expected risk to health. MRDLG's allow for a margin of safety.

na not applicable

ND Non detectable

NTU Nephelometric Turbidity Unit: a measure of light scattered from particles in the water.

Turbidity 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. 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.

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

Regulated at the Water Treatment Plant

Regulated Substance	Highest Level Detected	Range of Individual Samples	MCL	MCLG	Source of Contamination
Fluoride	1.26 mg/l	ND – 1.26 mg/l	4 mg/l	4 mg/l	Added to water to promote strong teeth. Erosion of natural deposits. Discharge from fertilizer factories.
Nitrate	0.5 mg/l	0.34 – 0.5 mg/l	10 mg/l	10 mg/l	Run-off from fertilizer use. Leaching from septic tanks and sewage. Erosion of natural deposits.
Bromate	2 µg/l avg	ND – 6 µg/l	10 µg/l	0 µg/l	By-product of ozone disinfection of drinking water.
Total Organic Carbon	30.1% Removal[1]	30.1% - 72.6% Removal	<25% Removal	na	Naturally occurring
Barium	19 µg/l	na	2000 µg/l	2000 µg/l	Erosion of natural deposits
Chromium	2.1 µg/l	na	100 µg/l	100 µg/l	Erosion of natural deposits

[1] Poorest removal corresponds to highest concentration

Monochloramine - Regulated at the Distribution System

Regulated Substance	Highest Level Detected	Range of Individual Samples	MRDL	MRDLG	Source of Contamination
Monochloramine	2.7 mg/l avg	2.4 – 2.9 mg/l	4 mg/l	4 mg/l	Disinfectant added at Water Plant

Turbidity - Regulated at the Water Treatment Plant

Regulated Element	95th Percentile TT achieved (max)	95th Percentile TT required	95th Percentile TT voluntary goal	Lowest % of Samples within requirements	Single highest measurement	Source of Contamination
Turbidity	0.17 NTU	0.3 NTU	0.1 NTU	0	0.35 NTU	Soil Runoff

Water Quality Test Results

The following regulated substances were detected in some samples

Copper and Lead – Regulated at the Customer's Tap –Zero of 5 at-risk homes that were sampled exceeded the lead or copper action level. At-risk homes are defined by the USEPA as homes with cooper plumbing installed between 1982 – 1988 using lead solder. Lead levels can easily be eliminated by flushing the cold water prior to use.

Regulated Substance	Detection Level at the 90th Percentile	AL	ALG	Source of Contamination
Copper – 2008 Customers plumbing	75 µg/l	1300 µg/l	1300 µg/l	Corrosion of household plumbing systems. Erosion of natural deposits.
Lead – 2008 Customers plumbing	1.47 µg/l	15 µg/l	0 µg/l	Corrosion of household plumbing systems. Erosion of natural deposits.

Regulated in the Distribution System

Regulated Substance	Highest Level Detected	Range of Individual Sample	MCL	MCGL	Source of Contamination
Total Coliform	Non-Detected in all samples	0%	Detected in not more than 5% of samples taken monthly	0 %	Naturally occurring in the environment
Total Trihalomethanes	4 µg/l avg †	ND – 4 µg/l	80 µg/l	0 µg/l	By-product of drinking water disinfection
Total Haloacetic Acids	5 µg/l avg †	4 – 5 µg/l	60 µg/l	0 µg/l	By-product of drinking water disinfection

† Highest running annual average of last four quarters

These tests also showed the following characteristics in our water. Federal and State standards have yet to be established and all results are well within limits accepted by most public health officials.

Non-regulated Substance	Average	Range of Individual Samples	Source of Contamination
Hardness	142 mg/l	99 – 200 mg/l	Naturally occurring minerals; controlled by water treatment process
pH	9.3	9.1 – 9.5	Controlled by water treatment process
Aldehydes	8 µg/l	ND – 33 µg/l	By-product of drinking water ozonation
1,4-Dioxane	ND	ND	Groundwater contamination from manufacturing process and landfills
Perchlorate	0.08 mg/l	na	Groundwater contamination from manufacturing process
Sodium	55 mg/l	42 – 72 mg/l	Naturally occurring minerals; run-off of road salt into surface water; caustic soda used in water treatment process; bleach used in water treatment process

Notice of Violations – We are required to monitor your drinking water for specific contaminants on a regular basis as required by USEPA and MDEQ. In addition to all required testing, we voluntarily monitor more frequently and for many additional potential contaminants. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During 2008 we did not monitor or test for endothall during the required sampling period. Additionally, we did not monitor our wells in the first quarter for Volatile Organic chemicals (VOCs) and we also failed to monitor one of the four wells in the third quarter for VOCs. These violations do not pose a threat of the water. The table below lists the contaminants we did not properly test for during 2008.

Contaminant	Required Sampling Frequency	Number of Taken Samples	When All Samples Should Have Been Taken	Date Sample Was Taken
Endothall	1 / year	0	4/1/2008 – 9/30/2008	11/17/2008
VOCs	4 / quarter	0	1/1/2008 – 3/31/2008	4/18/2008
VOCs	4 / quarter	3	7/31/2008 – 9/30/2008	10/16/2008

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:

AFTER HOURS EMERGENCY: (734) 663-0995

http://www.aatwp.org