Charter Township of Waterford

2005 Annual Water Quality Report

Waterford Township Department of Public Works (DPW) presents its eighth annual drinking water quality report!

Waterford Township Department of Public Works (DPW) presents its eighth annual Drinking Water Quality Report! The Environmental Protection Agency (EPA) and the Michigan Department of Environmental Quality (MDEQ) require us to report to you the quality of your drinking water. While a statutory requirement, Waterford Township considers it a priority to inform you, our customers, about the safety of the water you drink and the importance of protecting our water supply. We are excited and proud to bring this report to you and feel that the information we are providing is important. Waterford Township Department of Public Works is also very pleased to announce that there was no treatment or monitoring violations for Operational Year 2005. If you have any questions or desire more information about this report or any other subject related to your water quality, please contact Tom Coburn (Water and Sewer Division Superintendent), Phone: 248-674-2278 Fax: 248-674-8658, Email: jcobum@twp.waterford.mi.us

Where does my drinking water come from?

The sources of drinking water (both tapwater and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Our water comes from 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 the EPA's Safe Drinking Water Hotline (800)426-4791.

Waterford Township's water supply is obtained from fifteen (15) wells located at twelve (12) different locations throughout the Township. Eleven (11) of the well sites contain a Water Treatment Plant that perform a variety of treatment processes including iron and manganese removal. Additional chemicals are also added to disinfect the water and to control other contaminants such as lead and copper. In order to ensure that tap water is safe to drink the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Contaminants that may be present in untreated 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 water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming.

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 storm water runoff, and septic systems.

Pesticides and Herbicides, which may come from a variety of sources such as agriultural and residential uses.

Radioactive contaminants, which are naturally occuring or be the result oil and gas production and mining activities.

What Contaminants are in my water?

The following is a list of some common contaminants and their associated health effects when the Maximum Contaminant Level (MCL) level is exceeded. If a particular MCL, or Action Level (AL), is exceeded, additional treatment or other action may be required. However, Waterford Township's water falls below the MCL's or AL's for these and all other parameters monitored.

Copper:

Copper is an essential nutrient, but some people who drink water-containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water-containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

Flouride:

Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth. Waterford Twp. does not add fluoride to its finished water. However, fluoride does occur naturally in ground water. Please refer to the data table on the last page for the levels of fluoride observed in 2005. Please consult with your health care provider for Flouride supplement recommendations.

Lead:

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking water Hotline (800-426-4791).

Infants and children who drink water-containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Waterford Township's water for Operational Year 2005 was below the (AL) Action Level for lead. Please refer to the table on the last page for the specific results for lead in Operational Year 2005.

Should I be concerned about Arsenic, Nitrate, and Chloride in the water?

Arsenic:

Arsenic, while used in the manufacturing of pesticides, metal products, pigments and dyes, and medicine, is a naturally occurring element in our environment and therefore, can be found in groundwater. While a known carcinogen, the health effects of arsenic depend on the amount consumed. The year current MCL for arsenic is 50 ppb and Operational Year 2005 the Township was not out of compliance for Arsenic. 2005 tests indicate that arsenic was not detected at or above the MCL limit in Waterford Township's Water System. In Operational Year 2006, the MCL for arsenic is scheduled to be lowered to 10 ppb. The Township does not expect any problems with meeting the more stringent criteria. Please visit our web page for further information regarding the Township's arsenic levels at: http://www.twp.waterford.mi.us/publicworks/ARSENIC.htm

While your drinking water meets EPA standards for arsenic, it does contain low levels of arsenic. The EPA standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The EPA continues to research on the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Nitrate:

Nitrate is formed when oxygen in the air or dissolved in water combines with nitrogen. While nitrate is naturally occurring, concentrations can rise from septic tank leachate and fertilizers, which are rich in nitrogen. Infants below the age of six months who drink water-containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome. The MCL for nitrate is 10 ppm and Waterford's water was not detected to have any nitrates for the samples taken in Operational Year 2005.

TTHM's & HAAS

Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5) are a group of chemicals that are formed along with other disinfection by-products when chlorine or other disinfectants used to control microbial contaminants in drinking water react with naturally occurring organic and inorganic matter in water. The trihalomethanes are chloroform, bromodichloromethane, dibromochloromethane, and bromoform. The haloacetoic acids are monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoaacetic acid, and dibromoacetic acid. Under the Information Collection Rule (ICR), we are required to monitor contaminants in this category. For more information about this rule view the EPA website at: http://www.epa.gov/

Waterford Township Wellhead Protection

Waterford Township DPW currently has ten Michigan Department of Environmental Quality (MDEQ) approved Well Head Protection Area's (WHPA's), which are shown on the map below this page. These areas define the boundaries of the 10-year zone of capture for a specific wellhead. If there were a contaminant release at the edge of the boundary, it would take approximately 10 years for it to reach the wellhead, if untreated. As a result, this powerful analytical tool allows for the development of an action plan to resolve the problem before the wellhead would become contaminated. You can do your part by disposing of contaminants properly, as well as reporting spills and dumping.

In April 2002, Waterford DPW received approval of its Well Head Protection Plan (WHPP) from the MDEQ. Waterford DPW is in the process of implementing certain components of the plan. Some of the main components include public education and signage around the various Well Head Protection Area's located within Waterford. Look for these signs around our community. The signs are being placed wherever main roads intersect wellhead protection areas.

Abandoned Well Management Program

Waterford Township has also been awarded a grant from the MDEQ for the purpose of locating and properly plugging abandoned wells and has retained DLZ Michigan, Inc. (DLZ), of Lansing to conduct the search and prepare the specifications for proper abandonment of wells within the WHPAs. The Abandoned Well Management Program is currently in its investigation phase, where we are conducting door-to-door surveys of properties in a pilot-study-area to ascertain the approximate number of unused wells and the likelihood of successfully abandoning them.

Waterford Township is pleased to announce that the Michigan Section of the American Water Works Association (AWWA) awarded the 2005 Exemplary Wellhead Protection Award to the Township for our effort in implementing an effective wellhead protection program.

Frequently Asked Questions (F.A.Q.'s)

Do I need to take special precautions with my drinking water?

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/Centers for Disease Control (CDC) 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). The Water Quality Data Table on the last page of this report lists all of the drinking water contaminants that were detected during the calendar year of this report. Additionally, the second and third pages of this report break down possible contaminants in your water and the methods Waterford uses to protect the water supply. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk.

Does Waterford Township Recommend Water Softners?

While Waterford Township's treatment plants remove a good deal of hardness from the water, softeners are still recommended. We Suggest customers set their units to 18 grains initially and subsequently adjust as necessary.

What should I know about hydrant flushing?

The process of hydrant flushing is conducted to improve water quality. Department of Public Works conduct hydrant flushing at night to best keep service from being uninterrupted. Hydrant flushing takes place in both the fall and winter seasons. It is not uncommon to experience rusty looking water immediately following flushing. This problem should clear up quickly.

Isn't there an easier way to pay my bill?

Waterford Township DPW offers the ability for customers to pay their water and sewer utility bills via auto-debit from their checking or savings accounts. Please visit our website for enrollment forms.

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2005 Water Quality Data Table

Per MDEQ and/or EPA monitoring requirements, contaminant-monitoring schedules vary and can exceed calendar years in collection and testing frequency.

Unless otherwise noted, the data presented in this table is from testing done in the calendar year 2005.

	Testing Due	Date Range	MCLG	MCL	Your Water	Sample Range	Major Sources in Drinking Water
Inorganic Contaminants:							
Flouride (ppm)	Yearly	2005	4	4	0.7	0.0 to 0.7	Erosion of natural deposits and discharge from fertilizer and aluminum
Arsenic (ppb)	Yearly	2005	N/A	**50	7	0.0 to 11.0	Used in agricultural production and naturally found in the environment.
Selenium (ppb)	2006	2001	50	50	5	0.0 to 5.0	Discharge from petrolium, metal refineries, and mines as well as erosion of
Barium (ppm)	2006	2001	2	2	0.22	0.07 to 0.22	Discharge of drilling wastes and metal refineries as well as erosion of natural deposits.
Radioactive Contaminants:							
Combined Radium (pCi/L)	2012	2003	0	5	1.23	0.42 to 1.23	Erosion of natural deposits.
Organic Contaminants:							
TTHM Total Trihalomethethane (Distribution System) (ppb)	Yearly	2005	N/A	80	*18.96	5.5 to 29.2	By-product of drinking water disinfection
TTHM Total Trihalomethethane (Water Plants) (ppb)	2006	2003	N/A	80	*13.8	0.0 to 78.3	By-product of drinking water disinfection
HAA5 Total Haloacetic Acid (Distribution System) (ppb)	Yearly	2005	N/A	60	*3.4	0.0 to 8.0	By-product of drinking water disinfection
HAA5 Total Haloacetic Acid (Water Plants) (ppb)	Yearly	2005	N/A	60	*0.2	0.0 to 2.0	By-product of drinking water disinfection
2005 Microbial Contaminants - Monthly Monitering in the Distribution System						**Highest# detected**	**Major Sources in Drinking Water**
Total Coliform Bacteria	Yearly	2005	0	<5% of monthly		In one month = 2	Naturally Present in the Environment. No violation in 2005.
E. Coli (fecal) Coliform Bacteria	Yearly	2005	0			In one year =0	Human waste and animal fecal waste. No violation in 2005
Special Monitoring of Contaminants			**MRDLG**	**MRDL**	**Your Water**	**Sample Range**	
Sodium (ppm)	Yearly	2005	NR	NR	106	23 to 106	Erosion of natural deposits.
Chlorine (ppm)	Yearly	2005	4	4	0.352	0.267 to .440	Water additive used to control microbes.
Copper/Lead			**MCLG**	**AL**	**90th%**	**Sites above AL**	**Major Sources in Drinking Water**
Copper (ppm)	2008	2005	1.3	1.3	*.881ppm	2 out of 30 sites	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservatives
Lead (ppb)	2008	2005	0	15	6.9ppm	0 out of 30 sites	Corrosion of household plumbing systems and erosion of natural deposits.

Terms and Abbreviations

*Indicates an annual average calculation

**Beginning in the operation year 2006, the arsenic MCL level is scheduled to be lowered to 10ppb

Your Water: the highest single value obtained during the reporting period unless noted with an *

Sample Range: The lowest to the highest values obtained.

MRDLG: The level of a drinking water disinfectant below which there is no expected health risk.

MCLG: The Maximum Contaminant Level Goal is the level below which there are no known health risks

MCL: The Maximum Contaminant Level is the highest level of contaminant that is allowed in drinking water

AL: The action level is the concentration of contaminant which, if exceeded, requires treatment.

90th Percentile: 90% of the homes tested have lead/copper levels at or below the 90th percentile value

MRDL: The highest level of disinfectant allowed in drinking water.

N/A: Not Applicable
NR: Not Regulated by the EPA

pCi/L: picocuries per liter
ppm: parts per million, or milligrams per liter
ppb: parts per billion, or micrograms per liter