

Charter Township of Waterford



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2006 Annual Water Quality Report

**Waterford Township Department of Public Works (DPW) Presents
The 9th Annual Drinking Water Quality Report**

The Waterford Township Department of Public Works (DPW) presents its' ninth annual Drinking Water Quality Report! The Environmental Protection Agency (EPA) and the Michigan Department of Environmental Quality (MDEQ) require water utilities to report the quality of your drinking water. While this is a statutory requirement, the DPW 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 and timely. The DPW is also very pleased to announce that there were no treatment or monitoring violations for Operational Year 2006. 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: [jacoburn@twp.waterford.mi.us](mailto:jcoburn@twp.waterford.mi.us)

Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. The DPW utilizes wells to provide drinking water. As water travels over land surface 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.

Where does my drinking water come from?

The Township water supply is obtained from fifteen (15) wells located at twelve (12) different locations throughout the Township. Ten (10) 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 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 agricultural and residential uses.
- **Radioactive contaminants**, which are naturally occurring or be the result of 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) is exceeded. If a particular MCL or Action Level (AL), is exceeded, additional treatment or other action may be required. However, the Township's water falls below the MCL's and AL's for these and all other parameter's 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 period of time may 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 physician.

Fluoride: 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. The DPW treatment process does not add Fluoride to its finished water. However, fluoride occurs naturally in ground water. Please refer to the data table on the last page for the levels of fluoride observed in 2006. Please consult with your health care provider for fluoride 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 in 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 levels of lead 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. The Township's water for operational year 2006 was below the action level for lead. Please refer to the table on the last page for the specific results for lead in operational year 2006.

Arsenic: While used in the manufacturing of pesticides, metal products, pigments and dyes, and medicine, arsenic is a naturally occurring element in our environment and can be found in groundwater. While a known carcinogen, the health effects of arsenic depend on the amount consumed. The current MCL for arsenic is 10ppb, which was lowered from 50ppb by the EPA. In operational year 2006, Township water met or exceeded the new stringent arsenic criteria. Please visit our website 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 arsenic standards, it does contain naturally occurring low levels. The EPA standard balances the current understanding of arsenic's possible health effects against the cost 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 with 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 10ppm and Township water was not detected to have any nitrates for the samples taken in Operational Year 2006.

TTHM's and HAA5: Total Trihalomethanes (TTHM's) and Haloacetic (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 material in water. 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

The Township currently has ten Michigan Department of Environmental Quality (MDEQ) approved Well Head Protection Areas (WHPAS). These areas define the boundaries of the 10-year zone of capture for a specific wellhead. If untreated, a contaminant release at the edge of the boundary would take approximately 10 years to reach the wellhead. 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. The Township wells range in susceptibility from moderately low to high as defined by the Source Water Assessment Report. For more information on this topic please feel free to contact Tom Coburn, Water Superintendent at: 248-618-7462. Please remember, you can do your part by disposing of contaminants properly, as well as reporting spills and dumping.

In April 2002, the DPW received approval of its Well Head Protection Plan (WHPP) from the MDEQ and continues to implement 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

The 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) to conduct the search and prepare the specifications for proper abandonment of wells within the WHPAs. The Abandoned Well Management Program is concurrently conducting investigations and abandoning identified unused wells with the cooperation of property owners. To date, over 150 wells have been properly abandoned under the program.

The Michigan Section of the American Water Works Association honored Waterford Township with the 2005 Exemplary Wellhead Protection Award for our effort in implementing an effective wellhead protection program.

Waterford Township is also pleased to announce that the National American Water Works Association has selected Waterford Township as the recipient of the Exemplary Source Water Protection Award for 2006.

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 disorders, some elderly, and infants can be particularly at risk for infection. These people should seek advice about drinking water from their health care providers. EPA/Center 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 Drinking Water 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 the DPW uses to protect the water supply. The presence of these possible contaminants in the water does not necessarily indicate that the water poses a health risk.

Does the Township recommend a water softener?

While Township treatment facilities substantially remove iron from the water, hardness remains and softeners are recommended. Water hardness realized by property owners will vary depending on the source of ground water utilized at a treatment facility in a given area. We suggest customers set their water softener units at 19 grains initially and subsequently adjust as necessary. In operational year 2006 the average grains per gallon was 19.11 based on sampling. Please feel free to call the Water Treatment Branch at: 248.618.7483 for individual settings for your water softener.

What should I know about hydrant flushing?

Water hydrant flushing is conducted to improve water quality and is conducted in the spring and fall of each year as necessary. The DPW conducts hydrant flushing at night to minimize service interruption and inconvenience to customers. However, it is not uncommon to experience rusty looking water immediately following flushing. This condition should clear up in a short time after flushing.

Is there an easier way to pay my bill?

The DPW offers customers the convenience of paying their water and sewer bills via auto-debit from their checking or savings accounts. Please visit our website for enrollment forms. By the end of the third quarter in 2007, customers will also have the option of viewing and/or paying their bills online.

2006 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 2006.		Testing Due	Date Range	MCLG	MCL	Your Water	Sample Range	Major Sources in Drinking Water
Inorganic Contaminants:								
Flouride (ppm)	Yearly	2006	4	4	0.64	0.0 to 0.64	Erosion of natural deposits and discharge from fertilizer and aluminum factories.	
Arsenic (ppb)	2007 - 2009	2005	N/A	**10	7	0.0 to 11.0	Used in agricultural production and naturally found in the environment.	
Selenium (ppb)	2009 - 2012	2006	N/A	**10	5	0.0 to 5.0		
Barium (ppm)	2009 - 2012	2001	50	50	5	0.0 to 5.0	Discharge from petroleum, metal refineries, and mines as well as erosion of natural deposits.	
		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)	2013 - 2016	2003	0	5	1.23	0.42 to 1.23	Erosion of natural deposits.	
Organic Contaminants:								
THM Total Trihalomethane (Distribution System) (ppb)	Yearly	2006	N/A	80	*18.06	9.6 to 35	By-product of drinking water disinfection	
THM Total Trihalomethane (Water Plants) (ppb)	Yearly	2006	N/A	80	*4	0.0 to 3	By-product of drinking water disinfection	
HAA5 Total Haloacetic Acid (Distribution System) (ppb)	Yearly	2006	N/A	60	*1.0	0.0 to 14.00	By-product of drinking water disinfection	
2005 Microbial Contaminants - Monthly Monitoring in the Distribution System								
Total Coliform Bacteria	Yearly	2006	0	>5% of monthly		Highest# detected	Major Sources in Drinking Water	
E. Coli (fecal) Coliform Bacteria	Yearly	2006	0			In one month = 1	Naturally Present in the Environment. No violation in 2006.	
Special Monitoring of Contaminants								
Sodium (ppm)	Yearly	2006	NR	NR	49	In one year = 0	Human waste and animal fecal waste. No violation in 2006	
Chlorine (ppm)	Yearly	2006	4	4	1.3	21 to 49	Erosion of natural deposits.	
Copper/Lead			MCLG	AL	90th%	0.0 to 1.3	Water additive used to control microbes.	
Copper (ppm)	2008	2005	1.3	1.3	.88 ppm	Sites above AL	Major Sources in Drinking Water	
Lead (ppb)	2008	2005	0	15	6.9 ppm	2 out of 30 sites	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservatives	
						0 out of 30 sites	Corrosion of household plumbing systems and erosion of natural deposits.	
Terms and Abbreviations								
*Indicates an annual average calculation							MCLG: The Maximum Contaminant Level Goal is the level below which there are no known health risks	
**Beginning in the operation year 2006, the arsenic MCL level has been lowered to 10ppb							MCL: The Maximum Contaminant Level is the highest level of contaminant that is allowed in drinking water	
Your Water: the highest single value obtained during the reporting period unless noted with an *							AL: The action level is the concentration of contaminant which, if exceeded, requires treatment	
Sample Range: The lowest to the highest values obtained							90th Percentile: 90% of the homes tested have lead/copper levels at or below the 90th percentile value	
MRDLG: The level of a drinking water disinfectant below which there is no expected health risk.							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