

**2005 ANNUAL DRINKING WATER QUALITY REPORT**  
**VILLAGE OF MILFORD**  
**JUNE 22, 2006**

We're pleased to present to you the 2005 Annual Quality Water Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. Our water source is from two 12-inch diameter water wells, 114 feet deep owned by the Village of Milford. Our wells draw water from an underground aquifer that extends north towards Moore Lake in Milford Township. Once the water is pumped from the aquifer, the water is pumped to the Iron Removal Plant and filtered to remove the iron. Chlorine is added as a disinfectant to protect the water after it leaves the plant. Fluoride is added to the water as it leaves the plant to prevent tooth decay.

The State performed an assessment of our source water to determine the susceptibility or the relative potential of contamination. The susceptibility rating is on a seven-tiered scale from "very-low" to "very-high based on geologic sensitivity, well construction, water chemistry and contamination sources. The susceptibility of our source water is moderate. Through our Well Head Protection Plan (WHPP) approved by the Michigan Department of Environmental Quality, we are making efforts to protect our source water supply. This is an important tool for the protection of our community's drinking water source. Educating the public and our water customers on the proper disposal of chemicals, water conservation, and being informed of the source of our drinking water are important educational tools of a WHPP. One program provided to the residents of our community is the annual Household Hazardous Waste Collection Event (HHWCE) held on the third Saturday of May. All unused or unwanted chemicals, batteries, motor oil, herbicides, pesticides, electronics, oil based paints, solvents, etc. can be brought to the Milford Civic Center site for proper disposal. This program helps to reduce the chance of these chemicals contaminating the groundwater. Information on the WHPP or the HHWCE is available at the Village Offices or Department of Public Services

The Village of Milford routinely monitors for contaminants in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2005.

If you have any questions about this report or concerning your water utility, please contact us. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled Council meetings. They are held on **the first and third Mondays of each month at 7:30 PM at the Village Offices.**

The sources of drinking water, both tap water and bottled water, including 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. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

In the tables below, you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

*Not-Detected or (ND)* means laboratory analysis indicates that the constituent is not present.

*Parts per million (ppm) or Milligrams per liter (mg/l)* –means that one part per million corresponds to one minute in two years or a single penny in \$10,000. *Parts per billion (ppb) or Micrograms per liter* - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

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

*Maximum Contaminant Level or (MCL)* means the “maximum allowed” is 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 or (MCLG)* means the “goal” is 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 Goal or MRDLG* means 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.

*Maximum Residual Disinfectant Level or MRDL* means the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control microbial contaminates.

The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. The table below represents the most current testing information available.

Compounds reported as TRACE were detected at levels above the detection limits, but at levels too low to quantitate.

<b>Inorganic Contaminants</b>						
<b>Contaminant</b>	<b>Violation Y/N</b>	<b>Level Detected</b>	<b>Unit of Measure</b>	<b>MCLG</b>	<b>MCL</b>	<b>Major Sources in Drinking Water</b>
Fluoride	N	1.6	ppm	4	4ppm	Erosion of natural deposits; water additive, which promotes strong teeth; discharge from fertilizer and aluminum factories.

**\*These arsenic values are effective January 23, 2006. Until then, the MCL is 0.05mg/l and there is no MCLG.**

<b>Volatile Organic Contaminants</b>						
<b>Contaminant</b>	<b>Violation Y/N</b>	<b>Range Lowest-Highest</b>	<b>Unit of Measure</b>	<b>MCLG</b>	<b>MCL</b>	<b>Major Sources in Drinking Water</b>
CIS,1,2-Dichloroethylene	N	1.8-3.3 ppb	ppb	70	70	Discharge from industrial chemical factories.
Trichloroethylene	N	Trace-0.5	ppb	0	5	Discharge from metal degreasing sites and other factories

Your drinking water meet's EPA'S standard for arsenic and does not contain detectable levels of arsenic. EPA'S standard balances the current understanding of arsenic's possible health effects against the costs of removing levels of arsenic, from drinking water. EPA continues to research 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. Some people who drink water-containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer. I'm pleased to report that our drinking water is safe and meets or exceeds federal and state requirements.

Chlorine Residual						
	Running Annual Average	Monthly Range Lowest-Highest	Unit of Measure	MCLG	MCL	Health Effects
Chlorine	0.23	0.17 - 0.29 ppm	ppm	4.0 ppm	4.0 ppm	Water additive used to control soil microbes.

## SPECIAL MONITORING

The following list contains 65 VOC's (Volatile Organic Compounds)\* that we test every three months for that are not found in our water.

ARENIC	DICHLOROPROPENE,1,3-CIS
BENZENE	DICHLOROPROPENE,1,3-TRANS
BROMOBENZENE	ETHYBENZENE
BROMOCHLOROMETHANE	FLUOROTRICHLOROMETHANE
BROMOFORM	HEXACHLOROBUTADIENE
BROMOMETHANE	ISOPROPYL BENZENE
BUTYLBENZENE, NORMAL-	ISOPROPYL TOLUENE , PARA-
BUTYLBENZENE, SEC-	METHYL ETHYL KETONE
BUTYLBENZENE, TERT-	METHYLENE CHLORIDE
CARBON TETRACHLORIDE	METHYL TERT-BUTYL ETHER
CHLOROBENZENE	METHYL ISOBUTYL KETONE
CHLORODIBROMOMETHANE	NAPHTALENE
CHLOROETHANE	NITROBENZENE
CHLOROMETHANE	PROPYLBENZENE, NORMAL-
CHLOROTOLENE (COMBINED)	STYRENE
DIBROMR-3-CHLOROPROPANE, 1,2	TETRACHLOROETHANE, 1,1,1,2-
DIBROMOETHANE 1,2-(EDB)	TETRACHLOROETHANE, 1,1,2,2-
DIBROMOMETHANE	TETRACHLOROETHYLENE
DICHLOROBENZENE, 1,2-	TETRAHYDROFURAN
DICHLOROBENZENE, 1,3-	TOLUENE
DICHLOROBENZENE, 1,4-	TOTAL TRIHALOMETHANES
DICHLOROBROMOMETHANE	TRICHLOROBENZENE , 1,2,3-
DICHLORODIFLUOROMETHANE	TRICHLOROBENZENE, 1,2,4-
DICHOLOETHANE, 1,1-	TRICHLOROETHANE, 1,1,1-
DICHLOROETHANE, 1,2-	TRICHLOROETHANE ,1,1,2-
DICHLOROETHYLENE, 1,1-	TRICHLOROPROPANE, 1,2,3
DICHLOROETHYLENE, 1, 2, CIS	TRIMETHYLBENZENE,1,2,4
DICHLOROETHYLENE, 1,2-TRANS	TRIMETHYLBENZENE,1,3,5
DICHLOROPROPANE, 1,2-	VINYL CHLORIDE
DICHLOROPROPANE, 1,3-	XYLENE, ORTHO
DICHLOROPROPANE , 2,2-	XYLENE, META & PARA
DICHLOROPROPENE, 1,1-	XYLENES (TOTAL)

VOC's are man-made chemicals such as paint thinner, dry cleaning fluid, solvents, and components of gasoline, other petroleum products and plastics.

Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps the EPA to determine where these contaminants occur and whether it needs to regulate those contaminants.

<b>Other Special Monitoring</b>				
<b>Substance</b>	<b>Unit</b>	<b>Highest detected level</b>	<b>Minimum Reportable Limit</b>	<b>Major Sources in Drinking Water</b>
Sodium	ppm	37 ppm	5 ppm	Naturally present in groundwater

## **Lead and Copper Monitoring**

In 2005, the Village of Milford Water Department staff collected samples drawn from 20 homes throughout the water system, based on EPA requirements to test for the presence of lead and copper in the drinking water. The test results below show the samples taken are well below the action level of 15 ppb for lead and 1.3 ppm for copper. The next round of testing will be conducted during June 1, 2008 to September 30, 2008. The state allows us to monitor for certain contaminants in water; less than once a year because the concentrations of these contaminants are not expected to vary significantly from year to year. All of the data is representative of the water quality, but some are more than one year old.

<b>Lead &amp; Copper Distribution System Monitoring Results</b>						
<b>Contaminant</b>	<b>Date Tested</b>	<b>Number of Sites Tested</b>	<b>90<sup>th</sup> Percentile</b>	<b># of Sites over Action Level</b>	<b>Action Level</b>	<b>Major Sources in Drinking Water</b>
Lead	<b>6-1-05</b> <b>9-30-05</b>	20	3ppb	0	15 ppb	Corrosion of household plumbing systems; erosion of natural deposits.
Copper	<b>6-1-05</b> <b>9-30-05</b>	20	0.1ppm	0	1.3 ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.

As you can see by the tables, our system had no violations. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water IS SAFE at these levels.

To ensure that the tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water supplies. FDA regulations establish limits for contaminants in bottled water that shall provide the same protection for the public health. All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. These substances can be:

**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 and residential uses.

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

**Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, can also come from gas stations, urban stormwater runoff, and septic systems.

All 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791. MCL's are set at very stringent levels.

To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

## Water System Capital Improvements

In our continuing efforts to maintain a safe and dependable water supply it is necessary to make improvements in your water system. The cost of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements. The Village of Milford has used funds from a 2 1/2 % interest loan through the Michigan Department of Environmental Quality (MDEQ) called the Drinking Water Revolving Funds to make improvements to the water system.

During the past 9 years, the water mains, fire hydrants, and valves on Huron-GM Roads and West Commerce were replaced with 12-inch pipe. East Commerce, East Liberty, First, Atlantic, West Lafayette, and Bellevue Street water mains have all been replaced with new 8-inch pipe. A new 12-inch pipe from the Well House was installed that increases the volume of water in the system to the south/southwest sections of the system. The North Water Tower and the South Water Tower were replaced to increase the system storage capacity to 1,145,000 gallons.

These same low interest loan funds also made it possible to recondition the Water Treatment Plant Iron Removal Filters and install a new Water Booster Pump Station on Winding Way that has increased water pressures in the southern pressure zone.

These and other improvements are recommendations from the Village of Milford; Water Distribution System Master Plan established in 1990, updated in the spring of 2000 and 2005. A 50% matching funds MDEQ Grant was used for the delineation of the new well field during the fall of 2004. This new well will be used, as a contingency source of drinking water for future needs of the community.

Future improvements include installing a new water main from the new 16-inch water well installed on the west side of the community to transport the water back to the Iron Removal Plant. Capacity improvements and the replacement of the aerator at the Iron Removal plant are being considered in the near future.

Since the events of September 11, 2001, the Village of Milford has reviewed the security of the Village Water System and facilities. New equipment has been installed that will notify us of unauthorized entry. Security of the water system will be regularly reviewed to ensure the safety of the drinking water.

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. These improvements are sometimes reflected as rate structure adjustments. Thank you for understanding.

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/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 (800-426-4791).

Please call the Department of Public Service office at 248-685-3055 and ask for Frederick J. Morin, Director of Public Services if you have questions or would like more information.

We at the Village of Milford 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.

Copies of this report are available at the Village Offices, Milford Library or the Department of Public Service Offices. You may also view the report on the Internet at **[www.villageofmilford.org](http://www.villageofmilford.org)**.

Respectfully Submitted,

Frederick J. Morin  
Director of Public Service