

# City of Plainwell, Michigan

## 2005 Water Quality Report

The Plainwell Department of Public Works is pleased to provide you with this year's annual Water Quality Report. This report presents information about Plainwell's water system from its groundwater source to your tap. We continually monitor our water supply, pumping and treatment processes and our distribution system to assure safe, reliable water at an affordable price. The water we produce meets or exceeds all State and Federal requirements and our Water Department had no violations in 2005.

The City of Plainwell began work on a Wellhead Protection Program in 1994 to protect its groundwater from the potential of contamination. This work included evaluating current and future well sites and the areas surrounding them, identifying existing and potential sources of contamination within these areas and developing methods to minimize threats to both developed and future well supplies. Program requirements were met and implementation began in 1998. The city is currently undergoing a review of the program and an updated version should be completed in 2006.

The susceptibility of contamination for Plainwell's operating well fields was determined by the state Department of Environmental Quality (DEQ) in 2003. Susceptibility is rated on a six-tier scale from "Very Low" to "Very High" based on geologic sensitivity, water chemistry, and current or potential contaminant sources. According to the DEQ, two of our wells were rated high in susceptibility and two wells were rated moderately high in susceptibility. Information on the report can be obtained by contacting the Plainwell Department of Public Works at 685-9363 or by email at [rupdike@plainwell.org](mailto:rupdike@plainwell.org).

### WHAT DOES THIS REPORT MEAN?

The City has two high-capacity wells, plus two backup wells that draw ground water from the aquifer underlying the city. As the water is pumped from the ground, fluoride is added to aid in the prevention of tooth decay and chlorine is added as a disinfectant to destroy pathogenic organisms that can be harmful to your health. The clean water is then pumped into the distribution system. Our public works staff collects and tests water samples from the system each day. These tests ensure that proper chemical levels are maintained and that the water remains free of unwanted contaminants.

The table on the inside shows that our system had no violations. We're proud that our drinking water meets or exceeds all Federal and State requirements. We constantly monitor for various constituents in the water supply to meet all regulatory requirements.

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. As water travels over land or underground, it can pick up substances such as microbes, inorganic and organic chemicals, and radioactive substances. Therefore all drinking water, including bottled drinking water, may be reasonably 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. Our monitoring and testing shows that some constituents were detected but the EPA has determined that your water is safe at these levels)

Microbial contaminants such as viruses and bacteria may come from sewage treatment plants, septic systems, agricultural livestock operation and wildlife. Inorganic contaminants such as salts and metals can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming. Pesticides and herbicides may come from a variety of sources such as agriculture, urban storm water runoff and residential uses. Organic chemical contaminants including synthetic and volatile organic chemicals are by-products of industrial processes and petroleum production and can also come from gas stations, urban storm water runoff and septic systems. Radioactive contaminants can occur naturally or be the result of oil and gas production and mining activities.

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink two 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.

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, persons with HIV, AIDS or other immune system disorders, the 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).

Thank you for allowing us to provide your family with clean, quality water. In order to maintain your safe, dependable water supply, we sometimes need to make improvements in your water system that will benefit all of our customers. These improvements may sometimes be reflected as rate adjustments. Thank you for understanding. We work around the clock to provide top quality water to every tap.

We ask that everyone help us to protect water sources, which are the heart of our community, our way of life and our children's future. If you see questionable activity at or near a well house or anywhere that may impact groundwater, please notify Public Safety at 685-9858 or call 911.

The 2005 Water Quality Report will not be mailed except by request. Copies are available from Public Works or City Hall during normal business hours. You may e-mail your request to Public Works at [rupdike@plainwell.org](mailto:rupdike@plainwell.org). The 2004 Water Quality Report is posted on the city web site at "www.plainwell.org".

### Plainwell 2005 Water Quality Data

This table shows the results of our monitoring for regulated substances during the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2005. It is important to remember that the presence of these constituents does not necessarily pose a health risk.

#### REGULATED SUBSTANCES

Substance	Sample Dates	Violation	Highest Detect	Range of Detect	Unit of Measure	MCLG	MCL	Likely Sources of Contamination
Arsenic	02/2005	No	0	0	ppb	0*	10*	Erosion of natural deposits
Barium	03/00-04/01	No	0.185	0.07 - 0.185	ppm	2	2	Erosion of natural deposits
Mercury	03/00-04/01	No	0.1	ND - .01	ppm	2	2	Erosion of natural deposits; discharge from factories; runoff from cropland
Selenium	03/00-04/01	No	1.0	ND - 1	ppm	50	50	Erosion of natural deposits
Fluoride	02/2005	No	1.1	0.1 - 1.1	ppm	4	4	Erosion of natural deposits
Nitrate (as Nitrogen)	02/2005	No	1.0	0.3 - 1.0	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage.

\* These arsenic values are effective January 23, 2006. Until then, the MCL is 50 ppb and there is no MCLG

Substance	Sample Dates	Violation	Highest RAA	Range of Detect	Unit of Measurement	MCL	Likely Sources of Contamination
Total Trihalomethanes	7/04	No	13.1	13.1	ppb	80	Erosion of natural deposits
Chlorine Residual	Monthly	No	0.7	0.4 - 0.9	ppm	4	By-products of water disinfection

#### SUBJECT TO ACTION LEVEL

Substance	Sample Date	Violation	Range Detected	90 <sup>th</sup> Percentile	Unit of Measurement	Action Level	Number of Samples Above AL	Likely Sources of Contamination
Copper**	06-2005	No	0 -390	144	ppb	1300	0	Corrosion of household plumbing systems.
Lead**	06-2005	No	0 - 15	7	ppb	15	0	Corrosion of household plumbing systems.

\*\* Lead and copper are not found in your drinking water as it leaves the well and enters the distribution system.

#### UNREGULATED SUBSTANCES\*\*\*

Substance	Sample Date	Violation	Range Detected	Unit of Measurement	Likely Sources of Contamination
Sodium	02/2004	No	0 - 37	ppm	Erosion of natural deposits

\*\*\* Unregulated contaminants are those for which the EPA has not established drinking water standards. Our monitoring helps the EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.

DEFINITIONS	<b>Action Level (AL)</b> – the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
	<b>Maximum Contaminant Level (MCL)</b> - Highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
	<b>Maximum Contaminant Level Goal (MCLG)</b> - 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.
	<b>Maximum residual disinfectant level (MRDL)</b> - Highest level of disinfectant allowed in drinking water; there is convincing evidence that use of a disinfectant is necessary to control microbials.
	<b>Maximum residual disinfectant level goal (MRDGL)</b> - Level of drinking water disinfectant below which there is no known or expected risk to health. MRDGLs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
	<b>Non-Detects (ND)</b> – laboratory analysis indicates that the constituent is not present.
	<b>Parts per billion (ppb) or Micrograms per liter</b> – one part per billion corresponds to one minute in 2000 years, or a single penny in \$10,000,000.
	<b>Parts per million (ppm) or Milligrams per liter (mg/l)</b> – one part per million corresponds to one minute in two years or a single penny in \$10,000.
<b>RAA</b> – Running annual average. For most contaminants, this is calculated quarterly.	

The following information is provided to assist you in installing or regulating your water conditioning systems.

Parameter Tested	Result
Hardness (as CaCO <sub>3</sub> )	Range of 303-317, average of 312 or 18 grains

If you have any questions about this report or concerning your water utility, please contact the Plainwell Department of Public Works at 685-9363 Monday through Friday 7 AM – 3 PM. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency (EPA) Safe Drinking Water Hotline at 1-800-426-4791.