Plainwell 2011 Water Quality Report

OUR SYSTEM OVERVIEW

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 2011.

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.

The susceptibility to contamination for Plainwell's operating well fields was determined by the Michigan Department of Environmental Quality (MDEQ) 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 emailing 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 potential contaminants in the water supply to meet all regulatory requirements.

All sources of drinking water are subject to 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 show that some substances 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 operations 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 compounds are by-products of industrial processes and petroleum production and can also come from gas stations, chemical spills, 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 from their health care providers about drinking water. 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).

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. Plainwell is responsible for providing high quality drinking water, but cannot control the variety of materials used in private 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 www.epa.gov/safewater/lead .

Thank you for allowing us to provide your family with clean, quality water. In 2009, we installed Variable Frequency Drives VFDs) on the two main wells, to maintain a more even water pressure and to reduce water hammer in the water distribution system when the wells are starting and stopping. We make improvements in order to maintain a safe, dependable water supply for the benefit all of our customers. These improvements may result in rate adjustments. Thank you for understanding.

We ask that everyone help us to protect water sources. 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 2011 Water Quality Report will not be mailed except by request. Copies are available from Public Works or City Hall during normal business hours, and on the city web site at www.plainwell.org. You may request a copy by email from Public Works at rupdike@plainwell.org.

Plainwell 2011 Water Quality Data

This table shows the results of our monitoring for regulated substances during the period of January 1st to December 31st, 2011. 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	03-2008	No	0.0	0.0	ppb	0	10	Erosion of natural deposits
Barium (ME)	04-2009	No	0.08	0.07-0.08	ppm	2	2	Erosion of natural deposits
Mercury	04-2009	No	0.0	ND	ppm	2	2	Erosion of natural deposits; discharge from factories; runoff from cropland
Selenium	04-2009	No	0.0	ND	ppm	50	50	Erosion of natural deposits
Fluoride	07-2012	No	0.7	0.0 – 0.7	ppm	4	4	Erosion of natural deposits
Nitrate (as Nitrogen)	07-2012	No	1.6	0.6-1.6	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage.

Substance	Sample Dates	Violation	Highest RAA	Range of Detect	Unit of Measure	MCL	Likely Sources of Contamination
Total Trihalomethanes	07-2010	No	9.1	9.1	ppb	80	By-products of water disinfection
Chlorine Residual	Monthly	No	0.7	0.2 – 0.7	ppm	4	By-products of water disinfection

SUBJECT TO ACTION LEVEL

Substance	Sample Date	Violation	Range of Detect	90th Percentile	Unit of Measure	Action Level	No. of Samples Above AL	Likely Sources of Contamination
Copper**	06-2011	No	0 - 390	216	ppb	1300	0	Corrosion of household plumbing systems.
Lead**	06-2011	No	0 – 34	3	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	07-2011	No	7 – 34	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	
	Action Level (AL) – the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
	Maximum Contaminant Level (**MCL) -** 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.
	Maximum Contaminant Level Goal (MCLG) - 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 (MRDL) - Highest level of disinfectant allowed in drinking water; there is convincing evidence that use of a disinfectant is necessary to control microbials.
	Maximum residual disinfectant level goal (MRGDL) - Level of 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.
	Non-Detects (ND) – laboratory analysis indicates that the constituent is not present.
	Parts per billion (ppb) or Micrograms per liter – one part per billion corresponds to one minute in 2000 years, or a single penny in $10,000,000.
	Parts per million (ppm) or Milligrams per liter (mg/l) – one part per million corresponds to one minute in two years or a single penny in $10,000.
	RAA – 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 CaCO3)	Range of 279 - 292, average of 284 or 16.6 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.