

# CITY OF PETERSBURG

# ANNUAL WATER QUALITY REPORT

## 2012

The City of Petersburg strives to provide the best quality drinking water possible. The purpose of this report is to provide you with information about your drinking water. The report explains to you where your water comes from and the treatment it receives before it reaches your tap. The report also lists all of the contaminants detected in your water and an explanation of all violations in the past year.

### Where Does My Water Come From?

In late 2003 we switched over to Monroe water. The Monroe Water Treatment Plant draws water from the Western Basin of Lake Erie. This great lake contains over 116 cubic miles of water! Two water intakes gravity feed water to their onshore pumping station. From there it is pumped approximately eight miles to their treatment plant. 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, water chemistry and contamination sources. The susceptibility of our source is highly susceptible, given land uses and potential contaminant sources within the source water area. However, the Monroe treatment plant has effectively treated this source water to meet all drinking water standards.

### How Is My Water Treated And Purified?

The treatment process consist of a series of steps. First, raw water is drawn from Lake Erie where molluscicide is added for Zebra Mussel control. Once the water reaches the treatment plant, ozone is added for taste and odor control. The water then goes to mixing tanks where aluminum sulfate is added for sedimentation. Chlorine is then added for disinfection (we carefully monitor the amount of chlorine, adding the lowest quantity necessary to protect the safety of your water without compromising taste). At this point, the water is filtered through layers of fine coal and silicate sand. As smaller, suspended particles are removed, and clear water emerges. Finally, fluoride (used to fight tooth decay) and a corrosion inhibitor (used to protect distribution system piping) are added before the water is pumped to sanitized water towers and into your home or business.

This report can be viewed on the Village web site at [www.petersburg-mi.com/](http://www.petersburg-mi.com/)

The sources of drinking water (both tap water and bottled water) include 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

### Substances That Might Be in Drinking Water

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

In order to ensure that tap water is safe, the U.S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems.

The City of Petersburg water plant staff collects and tests water samples throughout the distribution system . These tests ensure that the proper chemical levels are maintained and that any contaminants that cannot be removed by treatment are at safe levels.

**If you would like more information about your water, please call Chris Schmidt City of Petersburg 734-279-1978.**

# WATER QUALITY DATA

During the past year we have taken hundreds of water samples in order to determine the presence of any biological, inorganic, volatile organic or synthetic organic contaminants. The table below lists all contaminants that were detected in 2012. The state allows us to monitor for certain contaminants less than annually because the concentrations are not expected to change frequently. The most recent results of these test are also included in the table. Any violations are printed in **bold**, and an explanation of each violation is provided on page 3.

## Terms and Abbreviations:

- **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as possible using the best available treatment technology.
- **Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected health risk.
- **Maximum residual disinfectant level goal (MRDLG)** means the 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.
- **Maximum residual disinfectants level (MRDL)** means the highest level of disinfectant allowed in drinking **water**. There is convincing evidence that addition of disinfectant is necessary for control of microbial contaminants.
- **Action Level (AL):** The concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.
- **pCi/L** - picocuries per liter
- **ND** – not detected
- **TT** – treatment technique (a required process intended to reduce the level of a contaminant in drinking water).
- **NTU** – Nephelometric Turbidity Units
- **ppb** – parts per billion or micrograms per liter
- **ppm** – parts per million or milligrams per liter
- **N/A** – not applicable

Contaminant	MCL	MCLG	Petersburg Water	Range of Detections <sup>1</sup>	Sample Date	Violation	Typical Source of Contaminant
<b>Turbidity (NTU)</b>	TT=1.0 <sup>2</sup>	N/A	<i>Single Highest Measurement = 0.07 NTU</i>	.03-.07	2012	No	Soil Runoff
<b>Bromate (ppb)</b>	10	0	2.7	1.6-4.4	2012	No	By-product of drinking water disinfection
<b>Fluoride (ppm)</b>	4	4	<i>Amount detected = 0.62</i>	0.10 – 0.84	2012	No	Erosion of natural deposits; water additive that promotes strong teeth discharge from fertilizer and aluminum factories
<b>Sodium (ppm)</b>	N/A	N/A	<i>Single Highest Measurement = 13.0</i>	NA	2012	No	Naturally present in water
<b>Chlorine (ppm)</b>	4.0	4.0	<i>Amount detected = 1.35</i>	1.10 – 1.94	2012	No	Water additive used to control microbes
<b>Total Organic Carbon</b>	TT	N/A	<i>% removed = 28</i>	0-58	2012	No	Naturally present in the environment
<b>Total Trihalomethanes (ppb)</b>	80	N/A	<i>Highest Annual average = 44.4</i>	34.5-43.0	2012	No	By-product of drinking water disinfection
<b>Haloacetic Acids(HAA5s) (ppb)</b>	60	N/A	29.8	17.0-37.0	2012	No	By-product of drinking water disinfection

<sup>2</sup> Turbidity must be less than or equal to 0.3 NTU in at least 95% of the measurements taken throughout the month. Turbidity at the filter confluence point can NEVER, ever be > 1.0 NTU

Contaminant	MCL	MCLG	<i>Petersburg Water</i>	Range of Detections <sup>1</sup>	Sample Date	Violation	Typical Source of Contaminant
<b>Nitrate (ppm)</b>	10	N/A	<i>Amount detected= 0.60</i>	N/A	2012	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>Barium (ppm)</b>	2	N/A	<i>Amount detected= 0.02</i>	N/A	2011	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of Natural deposits
<b>Selenium (ppb)</b>	50	50	<i>Amount detected= 1.0</i>	N/A	2011	No	Discharge of petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Contaminant	MCL	MCLG	<i>Petersburg Water</i>	Range of Detections <sup>1</sup>	Sample Date	Violation	Typical Source of Contaminant
<b>Copper (ppb)</b>	AL = 1300	1300	<i>100</i>	0 out of 10 sites were above the	2011	No	Corrosion of household plumbing systems.
<b>Lead (ppb)</b>	AL= 15	0	<i>0</i>	AL	2011	No	

<sup>1</sup> Lead and Copper results list the number of samples that exceeded the action level, rather than the range detected.

## INFORMATIONAL STATEMENTS ABOUT THE CHEMICALS DETECTED IN YOUR WATER:

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-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 microbial contaminants are available from the Safe Drinking Water Hotline \(800-426-4791\)](#)

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)

**Information about lead in Drinking water:** 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. The City of Petersburg is responsible for providing high quality drinking water, but cannot control the variety of materials used in 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 <http://www.epa.gov/safewater/lead>

**ABOUT OUR TURBIDITY:** Turbidity in water is caused by the presence of suspended matter, such as clay, silt, finely divided organic matter, and other microscopic organisms. In 2012, we maintained an average turbidity level of 0.03 NTU. The MCL of turbidity is 1.0 NTU and 95% of samples in a given month are required to be below 0.3 NTU or there is a treatment technique violation.

If you have any questions about the chemicals in your water, please call the City of Petersburg at 734-279-1978. This report will not be mailed to every customer. If you would like a copy of this report it can be printed off of the city website at [www.petersburg-mi.com](http://www.petersburg-mi.com) or you may call the City of Petersburg 734-279-1210. We will make arrangements to make sure you receive a copy.



**The City of Petersburg Council meets at 7:00 pm on the first and third Monday of each month. Meetings are held at City hall. Please feel free to come and participate.**

**City of Petersburg  
24 E. Center St.  
Petersburg, Michigan 49270  
734-279-1210**