



CITY OF PONTIAC 2011 ANNUAL WATER QUALITY REPORT



The City of Pontiac and United Water Environmental Services, Inc. are pleased to inform you that in 2011, as in past years, the system has surpassed the water quality standards required by the US Environmental Protection Agency (EPA) and the State of Michigan Department of Environmental Quality (MDEQ). The 2011 Annual Water Quality Report describes the source of our water, lists our test results, and contains important information about water and health. This report is intended to provide consumer understanding of drinking water and to heighten awareness of the need to protect our precious water resources.

We hope this report addresses any drinking water quality concerns you might have. Additional information can be found on the Detroit Water & Sewer Department web site www.dwsd.org, and on the EPA's web site, Water on Tap: A Consumer's Guide to the Nation's Drinking Water at www.epa.gov/safewater.

Where Does My Water Come From?

The City of Pontiac's source water comes from the lower Lake Huron watershed, Lake Huron Water Treatment Plant in Port Huron. The watershed includes numerous short, seasonal streams which drain to Lake Huron. The Michigan Department of Environmental Quality, in partnership with the U.S. Geological Survey, the Detroit Water & Sewerage Department, and the Michigan Public Health Institute performed a source water assessment in 2004 to determine the susceptibility of potential contamination. The susceptibility rating is on a seven-tiered scale from "very low" to "very high" based primarily on geologic sensitivity, water chemistry, and contaminant sources. The Lake Huron source water intake is categorized as having moderately low susceptibility to potential contaminant sources. The Lake Huron water treatment plant has historically provided satisfactory treatment of this source water to meet drinking water standards. If you would like to know more about this report please visit the Detroit Water & Sewerage Department's website at www.dwsd.org or contact United Water Environmental Services, Inc., City of Pontiac Operations Manager at 248-335-6399.

Substances That May Be Found in Source Water

The following is intended to be educational and descriptive of all water sources throughout the world. Not all of the substances below are necessarily found in your source water. The sources for 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 human activity.

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 residential wastewater discharges, oil and gas production, mining or farming.
- Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff and residential uses.
- Organic Chemical Contaminants, including synthetic and volatile organics, which 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, which can be naturally occurring or be the result of oil and gas production and mining activities.

FREQUENTLY ASKED QUESTIONS

Why Are There Contaminants in My Drinking Water?

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 Environmental Protection Agency's Safe Drinking Water Hotline at (800-426-4791). In order to ensure that tap water is safe to drink, EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

How Do We Know the Water Is Safe to Drink?

The City of Detroit operates its treatment facilities 24 hours a day, seven days a week. The treatment process begins with adding chlorine to disinfect the source water, killing harmful micro-organisms that can cause illness. Next, chemical called alum is mixed with the water in a large tank to remove fine particles by making them clump together and settle to the bottom. Fluoride is then added to protect our teeth from cavities and decay. The water then flows through fine sand filters called filter beds. These filters remove even more particles and certain microorganisms that are resistant to chlorine. Finally, small amounts of phosphoric acid and chlorine are added to the treated water just before it leaves the treatment plant. Phosphoric acid helps control lead that may dissolve in water from your household plumbing system. Chlorine keeps the water disinfected as it travels through water mains to reach your home. In addition to a carefully controlled and monitored treatment process, the water is tested for a variety of substances before and during the various stages of treatment and throughout the distribution system. Hundreds of samples are tested each week in certified laboratories by a highly qualified and trained staff. Water produced by the City of Detroit also ranks among the top 10 in the country for quality and value.

Do I Need to Take Special Precautions?

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

Lake Huron Water Treatment Plant 2011 Regulated Detected Contaminants Tables

Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Inorganic Chemicals – Annual Monitoring at Plant Finished Water Tap								
Fluoride	08/14/2011	ppm	4	4	0.98	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	08/14/2011	ppm	10	10	0.30	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Barium	6/9/2008	ppm	2	2	0.01	n/a	no	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Disinfectant Residuals and Disinfection By-Products – Monitoring in Distribution System								
Total Trihalomethanes (TTHM)	Feb-Nov 2011	ppb	n/a	80	17.8	7.7 - 25.0	no	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	Feb- Nov 2011	ppb	n/a	60	11.6	5.5 - 14.0	no	By-product of drinking water disinfection
Disinfectant (Total Chlorine Residual)	Jan-Dec 2011	ppm	MRDGL 4	MRDL 4	0.80	0.59 - 0.93	no	Water additive used to control microbes
2011 Turbidity – Monitored every 4 hours at Plant Finished Water Tap								
Highest Single Measurement Cannot exceed 1 NTU		Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%)				Violation yes/no		Major Sources in Drinking Water
0.2 NTU		100%				no		Soil Runoff
Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.								
2011 Microbiological Contaminants – Monthly Monitoring in Distribution System								
Contaminant	MCLG	MCL			Highest Number Detected	Violation yes/no	Major Sources in Drinking Water	
Total Coliform Bacteria	0	Presence of Coliform bacteria > 5% of monthly samples			in one month	no	Naturally present in the environment.	
<i>E.coli</i> or fecal coliform bacteria	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal or <i>E. coli</i> positive.			entire year	no	Human waste and animal fecal waste.	
2011 Lead and Copper Monitoring at Customers' Tap								
Contaminant	Test Date	Units	Health Goal MCLG	Action Level AL	90 th Percentile Value*	Number of Samples Over AL	Violation yes/no	Major Sources in Drinking Water
Lead	2011	ppb	0	15	0	1	No	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2011	ppb	1300	1300	131	0	No	Corrosion of household plumbing system; Erosion of natural deposits; Leaching from wood preservatives.
*The 90th percentile value means 90 percent of the homes tested have lead and copper levels below the given 90th percentile value. If the 90th percentile value is above the AL additional requirements must be met.								
Regulated Contaminant	Treatment Technique			Running annual average	Monthly Ratio Range	Violation Yes/No	Typical Source of Contaminant	
Total Organic Carbon (ppm)	The Total Organic Carbon (TOC) removal ratio is calculated as the ratio between the actual TOC removal and the TOC removal requirements. The TOC was measured each month and because the level was low, there is no requirement for TOC removal.						Erosion of natural deposits	
2011 Special Monitoring								
Contaminant	MCLG	MCL	Level Detected		Source of Contamination			
Sodium (ppm)	n/a	n/a	4.76		Erosion of natural deposits			

Collection, sampling result information and table provided by Detroit Water and Sewerage Department (DWSD) Water Quality Division, ML Semegen.

Key to Detected Contaminants Table		
Symbol	Abbreviation for	Definition/Explanation
MCLG	Maximum Contaminant Level Goal	The level of contaminant in drinking water below which there is no known or expected risk to health.
MCL	Maximum Contaminant Level	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.
MRDLG	Maximum Residual Disinfectant level goal	The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.
MRDL	Maximum Residual Disinfectant Level	The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
ppb	Parts per billion (one in one billion)	The ppb is equivalent to micrograms per liter. A microgram = 1/1000 milligram.
ppm	Parts per million (one in one million)	The ppm is equivalent to milligrams per liter. A milligram = 1/1000 gram.
NTU	Nephelometric Turbidity Units	Measures the cloudiness of water.
ND	Not Detected	
TT	Treatment Technique	A required process intended to reduce the level of a contaminant in drinking water.
AL	Action Level	The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.
HAA5	Haloacetic acids	HAA5 is the total of bromoacetic, chloroacetic, dibromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.
TTHM	Total Trihalomethanes	Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane and bromoform. Compliance is based on total.
pCi/l	picocuries per liter	a measure of radioactivity
n/a	not applicable	
>	Greater than	

Pontiac's Residential Lead and Copper Testing showed no samples above the Action Level (AL) for either lead or copper. Therefore, Pontiac was not required to undertake any additional measures to reduce lead and/or copper levels. The 90th percentile values are statistical numbers based on the analysis of thirteen lead and copper samples. These values indicate that Pontiac is well below the Action Levels (AL) for both lead and copper.

Important Health Information

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 Pontiac 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 \(800-426-4791\)](tel:800-426-4791) or at <http://www.epa.gov/safewater/lead>.

Health Effects: Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at 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 lead levels 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 have learning disabilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. Additional information is available from the [Safe Drinking Water Hotline \(800-426-4791\)](tel:800-426-4791).

Things You Can Do Can Help Minimize Exposure:

- Any time your water has not been used for more than six hours, run your water for 30 seconds to 2 minutes, or until it feels colder. Always use cold water for drinking, cooking or making baby formula.
- Use faucets and plumbing materials that are either lead-free or will not leach unsafe levels of lead into your water.

2011 Unregulated Contaminant Monitoring Language

Unregulated contaminants are those for which the EPA has not established drinking water standards. Monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants. Beginning in July of 2008 – April 2009, the Detroit Water & Sewerage Department (DWSD) began monitoring quarterly for unregulated contaminants under the Unregulated Contaminant Monitoring Rule 2 (UCMR2). All the UCMR2 contaminants monitored on List 1 and List 2 in 2008-2009 were undetected.

EASY WATER CONSERVATION TIPS

- When washing dishes by hand, don't let the water run while rinsing. Fill one sink with wash water and the other with rinse water, or use a basin to place washed items in and rinse everything when all washing is done.
- Adjust sprinklers so only your lawn is watered and not the house, sidewalk, or street.
- Water your lawn & garden in the morning or evening when temperatures are cooler to minimize evaporation.
- Adjust your lawn mower to a higher setting. A taller lawn shades roots and holds soil moisture better than if closely clipped.
- Shorten your shower by a minute or two and you'll save up to 150 gallons a month.
- Upgrade older toilets with newer water efficient models.
- When running a bath, plug the tub before turning the water on then adjust the temperature as the tub fills up.
- Designate one glass for your drinking water each day or refill a water bottle. This will cut down on the number of glasses to wash.
- Don't use running water to defrost food. Defrost food in the refrigerator for water efficiency and food safety.
- Use a water-efficient showerhead. They're inexpensive, easy to install, and can save you up to 750 gallons per month.
- Soak pots and pans instead of letting the water run while you scrape them clean.
- Use a commercial car wash that recycles water.
- Set a kitchen timer when watering your lawn or garden to remind you when to stop. A running hose can discharge up to 10 gallons a minute.
- When the kids want to cool off, use the sprinkler in an area where your lawn or garden needs it the most.
- Drop your tissue in the trash instead of flushing it and save water every time.

For more information, contact:

United Water Environmental Services Inc.
City of Pontiac
Attn: Tim Sikma
522 S. Opdyke
Pontiac, MI 48341

Phone: 248-365-4850
Fax: 248-857-5697

Espanol (Spanish): Este informe contiene informacion muy importante sobre la calidad de su agua beber.
Traduscalo o hable con alguien que lo entienda bien.

United Water Environmental Services Inc.
City of Pontiac
522 S. Opdyke Road
Pontiac, MI 48341

Pre-Sort
Standard
U.S. Postage
PAID
Pontiac, MI Permit No
1015

POSTAL PATRON

PLEASE OPEN AND READ – IMPORTANT INFORMATION CONCERNING YOUR DRINKING WATER

WATER CONSERVATION TIPS ARE IN YOUR HANDS



- Turn off the water tap while you are brushing your teeth, turn it back on to rinse.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day! Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl, if the bowl water becomes colored, your toilet is leaking. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you can save more than 30,000 gallons a year.
- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. Get the most for your money, and load it to capacity.
- Use your water meter to detect hidden leaks. Simply turn off all water taps and appliances that use water. Check the water meter, and check again in 15 minutes, if the meter has moved, you have a leak.
- When you save water, you save money on all your other utility bills too. Saving water is easy for everyone to do.

DO THE MATH

One unit of water is equal to 748 gallons (imagine all the milk jugs stacked up to reach 748 gallons)

One unit of water is also equal to 100 cubic feet

One gallon of water weighs 8.34 pounds