

2015

WATER

Quality Report



City of Hamilton Water Production Division

The City of Hamilton Water Production Division is proud of the fine drinking water it provides.

We have a current, unconditioned license to operate our water system. The City of Hamilton is pleased to present you with the Annual Water Quality Report, also known as Consumer Confidence Report (CCR).

In 2015, the City of Hamilton produced 5.24 billion gallons of water not only for the citizens of Hamilton but also Butler County and commercial/industrial customers. The City of Hamilton Department of Underground Utilities continues to improve and replace water mains to ensure safe drinking water to the consumers. Included within this report is general health information, water quality test results, how to participate in decisions concerning your drinking water and water system contacts. **The City of Hamilton Water Production**



Won Best Tasting Water in the World in 2010 & 2015

Division's drinking water meets or exceeds all federal and state drinking water standards.

We encourage public interest and participation in our community's future. City Council meetings are held at 6:00 p.m. the second and fourth Wednesday of the month in the Council Chambers at 345 High Street.

The Public Utilities Commission meets generally at 1:15 P.M. the second Thursday of the month on the 7th floor in the Video Conference Room at 345 High Street. The public is welcome.

Source Water

Ohio EPA completed a study of Hamilton's North and South Wellfields' sources of drinking water to determine susceptibility to contamination. According to this study, the aquifer that supplies water to Hamilton's wells has a high susceptibility to contamination. This determination is based on

- 1) lack of a protective layer of clay;
- 2) shallow depth of the aquifer; and
- 3) the presence of significant potential contaminant sources in the protection area.

The City of Hamilton meets 100% of customer drinking water needs with groundwater pumped from the Great Miami Buried Valley Aquifer. This sand and gravel aquifer was formed by glaciers covering Ohio as recently as 10,000 years ago and serves as the primary source of drinking water for many communities in southwest Ohio. Hamilton pumps groundwater to the North and South Water Treatment Plants using large capacity wells located in Hamilton and the City of Fairfield.

To help ensure groundwater quality, the City is a member of a comprehensive Source Water Protection Program called The Hamilton to New Baltimore Groundwater Consortium that includes education, source control

strategies, and a contingency and emergency response plan. This program was developed in conjunction with the City of Fairfield, City of Cincinnati, and other local water producers. This past year The Hamilton To New Baltimore Groundwater Consortium was successful at winning the Groundwater Guardian Award for the 18th consecutive year. We are known



nationally for our positive strategies, youth and adult education outreach and raising awareness about protecting our water source.

For more information on the City's Source Water Protection Program and the Butler County Children's Water Festival, please contact the Groundwater Consortium Manager, Tim McLelland at 513-785-2464, or visit the Source Water Protection website: www.gwconsortium.org.



National Primary Drinking Water Regulation Compliance

The EPA requires regular sampling to ensure drinking water safety. The City of Hamilton conducted sampling for bacteria, inorganic and volatile organic contaminants during 2015. Samples were collected for many different contaminants, most of which were either not detected or were found well below the MCL in the City of Hamilton water supply. The Ohio EPA requires us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though accurate, are more than one year old.

Learn more about the City of Hamilton Water Production Division at www.hamilton-city.org or write to City of Hamilton, Water Production

Division, 5140 River Road, Fairfield, OH 45014. We'll be happy to answer any questions about the City of Hamilton Water Production Division and our water quality. If you would like further information regarding the water quality please call the Water / Wastewater Laboratory at 868-5971.



Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

Who needs to take special precautions?

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 microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).



For More Information:

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Phone: (513) 785-2464

2015 Water Quality Report

Explanation of the Water-Quality Data Table

This report is based upon tests conducted by/for the City of Hamilton Water Production Division. Terms used in the Water-Quality Table and in other parts of this report are defined here:

Maximum Contaminant Level or MCL: 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: 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.

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

Maximum Residual Disinfection Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary to control microbial contaminants.

Secondary Maximum Contaminant Levels (SMCLs): These levels are guidelines not enforceable limits. They identify acceptable concentrations of contaminants which cause unpleasant tastes, odors, or colors in the water. SMCLs are for contaminants that will not cause adverse health effects.

Parts per Million or mg/L: Are units of measure for concentration of a substance in solution. 1 mg/L is equal to 0.000134 oz of a substance in 1 gallon of water.

Parts per Billion or µg/L: Are units of measure for concentration of a substance in solution. 1 µg/L is equal to 0.000000134 oz of a substance in 1 gallon of water.

<“ Symbol: A symbol which means less than. A result of <5 means that the lowest level that could be detected was 5, and the contaminant in that sample was not detected.

pCi/L: pico curies per liter which is a measure of radioactivity.

NA: Not applicable.

The City of Hamilton continues to monitor for unregulated contaminants to ensure quality water to the consumers.

INORGANIC CONTAMINANTS

Contaminant	Unit	MCL	MCLG	SOUTH PLANT		NORTH PLANT		Violation	Sample Year	Typical Source of Contaminants
				Detected level	Range	Detected level	Range			
Fluoride	mg/L	4	4	0.97	0.27 - 1.18	0.87	0.70 - 0.92	No	2015	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate	mg/L	10	10	1.02	NA	0.165	NA	No	2015	Runoff from fertilizer use; Leaching septic tanks; Sewage; Erosion of natural deposits
Barium	mg/L	2.0	2.0	<0.025	NA	<0.025	NA	No	2014	Erosion of natural deposits; Certain manufacturing processes
Lead	mg/L	AL = 0.015	0.0	0.1130	NA	NA	NA	No	2015	Corrosion of household plumbing; Erosion of natural deposits
One out of 35 samples was found to have lead levels in excess of the Action Level (AL) of 0.015 mg/L.										
Copper	mg/L	AL = 1.3	1.3	0.0317	NA	NA	NA	No	2015	Corrosion of household plumbing systems; Erosion of natural deposits
Zero out of 35 samples was found to have copper levels in excess of the Action Level (AL) of 1.3 mg/L.										

MICROBIOLOGICAL CONTAMINANTS

Contaminant	Unit	MCL	MCLG	Distribution System (North and South Plant)		Violation	Sample Year	Typical Source of Contaminants
				Detected level	Range			
Total Coliform	%	5.0	0	1.00	NA	No	2015	Naturally present in environment

RESIDUAL DISINFECTANTS

Contaminant	Unit	MCL	MCLG	SOUTH PLANT		NORTH PLANT		Violation	Sample Year	Typical Source of Contaminants
				Detected level	Range	Detected level	Range			
Chlorine Dioxide	mg/L	0.8	0.8	0.56	0.08 - 0.56	0.44	0.12 - 0.44	No	2015	Water additive used to control microbes
Chlorite	mg/L	1.0	0.8	0.56	0.33 - 0.64	0.71	0.38 - 0.78	No	2015	By-product of drinking water chlorination

VOLATILE ORGANIC CONTAMINANTS

Contaminant	Unit	MCL	MCLG	Distribution System (North and South Plant)		Violation	Sample Year	Typical Source of Contaminants
				Detected level	Range			
TTHMs	µg/L	80	0	<2.0	NA	No	2015	By-product of drinking water chlorination
Total Haloacetic Acids	µg/L	60	0	<6.0	NA	No	2015	By-product of drinking water chlorination

UNREGULATED CONTAMINANTS

Contaminant	Unit	MCL	MCLG	Distribution System (North and South Plant)		Violation	Sample Year	Typical Source of Contaminants
				Detected level	Range			
Sulfate	mg/L	SMCL=250		68.1	NA	No	2012	Naturally present in soil and rocks; Certain industrial processes, Sewage treatment; Landfills; Industrial waste sites

MISCELLANEOUS NON-REGULATED

Component	Unit	Average Detected Level
Hardness	mg/l	152
Calcium	mg/l	23
Sodium	mg/l	27
Magnesium	mg/l	27

Samples for TTHMs and HAAS were collected four times this year (one at the beginning of each quarter).

What are the Contamination Sources to Drinking Water?

The sources of drinking water in the United States include rivers, lakes, streams, ponds, reservoirs, springs, and wells. This is true for both tap and bottled water. 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. 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 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, urban storm water runoff, and residential uses.

Organic Chemical Contaminants: including synthetic and volatile organic chemicals, 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

Concerned About Lead?

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 Hamilton Water Production Division 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 at <http://www.epa.gov/safewater/lead>.

and mining activities.

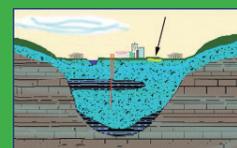
Radon: Hamilton monitored for Radon in the finished water during 2014. A total of one sample was collected at the South Plant and the Radon level was <3 pCi/L. One sample was collected from the Hamilton North Plant and the Radon level was <3 pCi/L. Radon is a radioactive gas that occurs naturally in some ground water. It may pose a health risk when the gas is released from water into air, as occurs during showering, bathing, washing dishes, or washing clothes. Radon gas released from drinking water is a relatively small part of the total radon in air. Major sources of radon are soil and cigarettes. Inhalation of radon gas has been linked to lung cancer, however, the effects of radon ingested in drinking water are not yet clear. If you are concerned about radon in your home, tests are available to determine the total exposure level. For additional information on how to have your home tested, call 800-SOS-RADON.

In order to ensure that tap water is safe to drink,

USEPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of 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 Safe Drinking Water Hotline at (1-800-426-4791).

How Pollution Impacts Water Quality



- LEGEND**
1. CITY
 2. PRODUCTION WELLS
 3. WATER TABLE
 4. BEDROCK
 5. SAND & GRAVEL AQUIFER
 6. IMPERMEABLE LAYER

