

Annual Drinking Water Quality Report

Reporting Year 2016 Public Water System (PWS) ID#: OH-5501612
300 East Staunton Road, City of Troy, Ohio www.troyohio.gov



The City of Troy Public Water System (PWS) is pleased to present the following report to you, the consumer, to provide information on the quality of Troy's drinking water. Included within this report is general health information, drinking water quality testing results performed between January 1 and December 31, 2016, how to participate in decisions concerning your drinking water and water system contacts. We have a current, unconditioned license to operate our public water system. The cost of our 2016 State of Ohio Public Water System License was \$12,675.32, based on our 10,927 service connections.



Samples from Troy's 10 deep wells are analyzed monthly for over 100 compounds by an EPA certified independent lab to ensure our source water is absolutely safe.

What's the source of your drinking water?

The City of Troy drinking water source is the Great Miami Buried Valley Aquifer (GMBVA). This is an enormous water-bearing sand and gravel formation associated with the Great Miami River. The GMBVA extend from north of Troy to the Ohio River, ranging from 30 to 300 feet in depth and from 1 to 3 miles wide. This aquifer is replenished by underground sources, precipitation, and riverbed filtration. Troy currently utilizes 10 production wells to pump water from this aquifer for treatment at the water plant. These wells are adjacent to the Great Miami River and located at the Miami Shores Golf Course and the Troy Municipal Park. Well water is pumped to the Water Treatment Plant (WTP) where it is softened, clarified, disinfected, and filtered prior to being pumped to our water consumers. In 2016, the finished water had an average hardness of 119 parts per million (ppm), average alkalinity of 62 ppm, and an average pH of 8.81.

In 2016 our treatment facility provided approximately 1.291 billion gallons of treated drinking water to consumers in Troy, Miami County, West Milton, and Ludlow Falls. Our treated water quality meets or exceeds all of the minimum standards that are set forth by the State of Ohio and the United States Environmental Protection Agency.

For more information about this report or your drinking water, please call Jeff Monce, Water Plant Superintendent, or Ralph Walters, Assistant Plant Superintendent, at (937)339-4826, or reach them via email: jeff.monce@troyohio.gov or ralph.walters@troyohio.gov.

Source Water Assessment

The City of Troy started a source water monitoring program in 1984. We have 25 monitoring wells to test water quality beyond our well fields. In 2016, we sampled 19 of these remote sites, from which it would take a contaminant years to reach our production wells. We also make monthly checks for contaminants at our production wells. In 1992, Troy developed a Wellhead Protection Program. This identifies potential sources of groundwater contamination within a 5-yr. time of travel zone around our wells. Zoning regulations have been adopted to further reduce potential contamination within a 1-yr. time of travel zone. Effective public outreach efforts to inform our residents and businesses are also an important part of this plan for safeguarding our vital water resource.

What are sources of contamination to drinking water?

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.

Contaminants that may be present in source water include: (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife; (B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; (D) 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; (E) Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

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 some contaminants.

A Source Water Assessment and Protection (SWAP) Plan is a key component of Troy's wellhead protection and monitoring program. An update of the plan was completed in 2016, and is currently under review by the Ohio EPA. The SWAP Plan is available at our office for review. Due to the highly permeable sand and gravel formation above our aquifer, this SWAP plan designates our water supply with a high susceptibility rating. Safe public practices are thus extremely important in protecting our source water from surface 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 Federal Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

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 infection. 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).

Unregulated Contaminant Monitoring Rule Part 3 (UCMR3)

In 2014, we participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Rule Part 3 (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us at the City of Troy Water Treatment Plant, (937)339-4826, for more information on this program.

2016 Sampling Results

The EPA requires regular sampling to ensure drinking water safety. The City of Troy collected hundreds of water samples to determine the presence of any bacterial, inorganic, radiological, volatile organic or synthetic organic contaminants during 2016. 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. In those cases, the most recent sample data are included, along with the year in which the sample was taken. 30 bacteriological samples from the Troy distribution system were taken each month in 2016, with NO coliform positive results obtained; ensuring NO e-Coli presence was detected. The table below shows only those contaminants that were detected in the treated drinking water.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2016	2	2	0.051	N/A	No	Discharge of drilling waste; Discharge from metal refineries; Erosion of natural deposits
cis-1,2 Dichloroethylene (ppb)	2016	70	70	0.093	0-0.20	No	Discharge from industrial deposits
Total Chlorine (ppm)*	2016	4	4	0.82	0.80-0.82	No	Water additive used to control microbes
Fluoride (ppm)**	2016	4	4	0.47	N/A	No	Erosion of natural deposits; Water additive which promotes strong Teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA5] (ppb)	2016	60	N/A	4.3	4.1-4.3	No	By-product of drinking water chlorination
Nitrate (ppm)	2016	10	10	0.11	N/A	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)***	2016	80	N/A	33.2	26.6-33.2	No	By-product of drinking water chlorination
LEAD AND COPPER							
Contaminants (Units)	Action Level (AL)	Individual Results over the AL	90% of Test levels were less than	Violation	Year Sampled	Typical Source	
Lead (ppb)	15	N/A	5.1 ppb	No	2016	Corrosion of household plumbing systems; Erosion of natural deposits	
	Zero of 30 samples were found to have lead levels in excess of the lead action level of 15 ppb						
Copper (ppm)	1.3	N/A	0.072 ppm	No	2016	Corrosion of household plumbing systems; Erosion of natural deposits	
	Zero of 30 samples were found to have copper levels in excess of the copper action level of 1.3 ppm						
SECONDARY SUBSTANCES ****							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Total Dissolved Solids [TDS] (ppm)	2016	500	N/A	244	N/A	No	Runoff/leaching from natural deposits
UNREGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE			
Bromodichloromethane (ppb)	2016	8.96	8.03-9.89	By-product of disinfection: component of Trihalomethanes (TTHMs) shown in the table above			
Bromoform (ppb)	2016	3.91	3.56-4.25	By-product of disinfection: component of Trihalomethanes (TTHMs) shown in the table above			
Chloroform (ppb)	2016	6.59	5.40-7.77	By-product of disinfection: component of Trihalomethanes (TTHMs) shown in the table above			
Dibromochloromethane (ppb)	2016	10.43	9.56-11.30	By-product of disinfection: component of Trihalomethanes (TTHMs) shown in the table above			
RADIOLOGICAL COMPOUNDS							
Gross Alpha (pCi/L)	2015	15	0	+/- 2.76	N/A	No	Erosion of natural deposits
Radium 228 (pCi/L)	2015	5	0	+/- 0.5	N/A	No	Erosion of natural deposits
UNREGULATED CONTAMINANT MONITORING RULE PART 3 (UCMR3)							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE			
Chromium-6 (ppb)	2014	0.027	0-0.053	Plants, soil, and Water			
Chromium-6 [Distribution System] (ppb)	2014	0.026	0-0.052	Plants, soil, and Water			
Molybdenum (ppb)	2014	8.66	8.55-8.78	Plants, soil, and Water			
Molybdenum [Distribution System] (ppb)	2014	9.34	8.5-10.1	Plants, soil, and Water			
Strontium (ppb)	2014	732	280-1,183	Plants, soil, and Water			
Strontium [Distribution System] (ppb)	2014	882	306-1,458	Plants, soil, and Water			
Vanadium [Distribution System] (ppb)	2014	0.119	0-0.238	Plants, soil, and Water			

* The value of 0.82 as the Amount Detected is the highest quarterly running annual average of the chlorine measured in the routine bacteria samples taken 30 times a month from the City of Troy Distribution system from January 1, 2016 to December 31, 2016

**This is amount of fluoride naturally occurring in the Troy well water that remains in the finished water after treatment. Troy does not add fluoride to the water.

*** Amount detected is the highest Locational Running Annual Average compliance value for all 2016 samples.

**** Amount Detected values are averages for all 2016 samples.

Definitions

Maximum Contaminant Level Goal (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.

Maximum Contaminant Level (MCL): The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Parts per Million (ppm) or Milligrams per Liter (mg/L) are units of measure for concentration of a contaminant. A part per million corresponds to once second in a little over 11.5 days.

Parts per Billion (ppb) or Micrograms per Liter (µg/L) are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.

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

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

Not applicable (N/A)

Secondary Maximum Contaminant Level (SMCL): SMCLs are established to regulate the aesthetics of drinking water like taste and odor.

Picocuries per liter (pCi/L): A common measure of radioactivity.

Lead in Home Plumbing

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 Troy 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 800-426-4791 or at <http://www.epa.gov/safewater/lead>.

The City of Troy performed U.S. EPA-mandated Lead and Copper Sampling in June 2016. Samples from 30 locations within Troy were analyzed by an independent approved laboratory. None of the 30 samples from the Troy distribution system were in exceedance of the action levels for lead or copper.

How do I participate in decisions concerning my drinking water?

You may express concerns regarding any water issue to the Troy City Council, which meets on the first and third Mondays at 7 p.m. Meetings are held on the second floor in the Council Chambers at City Hall, 100 S. Market St., Troy. Notices of special meetings, including the Utilities Committee meetings, are posted on the City of Troy website, www.troyohio.gov, and also at City Hall.

Year 2016 in Review . . .

In addition to serving our Troy customers, we pumped 140,212,600 gallons of drinking water to Miami County and 125,215,200 gallons to West Milton and Ludlow Falls. Other statistics include 13,886 feet of water main pipe was replaced or newly installed, 24 main breaks repaired, 158 new taps made, 79 new services installed, and 336 customer high-water usage alerts investigated. Construction also began on the new 0.75 MG Elevated Tower on West Stanfield Road in 2016.

