
# 2016 Water Quality Report

This report contains information on the quality of drinking water within the City of Brookville. It is required annually by the Federal Safe Drinking Water Act to provide consumers with information concerning water quality and advise of potential health effects of any contaminants. We monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. For more information, please contact the City of Dayton Water Department at 937-333-6030.

## OUR WATER SOURCE

Brookville's water comes from the City of Dayton Treatment Plant through the Montgomery County Water Distribution System and is serviced by the Westbrook pump station. Storage is in a 500,000 gallon elevated tank. The source of this water is the Miami Valley Buried Aquifer. The Aquifer is a large underground area of water–bearing sand and gravel deposits. This groundwater is influenced by surface water. The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells.

## THE TREATMENT PROCESS

Dayton has two water treatment plants which treat water that is pumped from wells. Wells pump extremely "hard" water to treatment plants for softening. "Hard" water has natural minerals which can clog pipes and water heaters over time. At the treatment plants lime is reacted with minerals in water to reduce "hardness". Then, fluoride and chlorine are added. Rapid sand filtration is the final step in the treatment process. After filtration, water is pumped to the distribution system.

## POSSIBLE CONTAMINANTS

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 water 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 byproducts of industrial processes and petroleum production; and can also come from gas stations, urban storm water runoff, and septic systems; and radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. 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. To ensure water is safe for consumption, the 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 provide the same protection for public health.

## GROUNDWATER PROTECTION

In 1985, a Well Field Protection Program was developed to counter threats to groundwater quality. This program includes land use control zoning, treatment of contaminated groundwater, early warning monitoring wells, and emergency preparedness. Dayton's Well Field Protection Program won an award from the American Water Works Association and was the first program approved by the Ohio EPA. The Groundwater Foundation has also designated Dayton as a Groundwater Guardian community. Dayton encourages environmentally friendly, economic development projects in its groundwater protection areas.

## SOURCE WATER ASSESSMENT

The Ohio EPA conducted a source water assessment of Dayton's water source. The assessment concluded that the aquifer supplying water to the City of Dayton's well fields has a high susceptibility to contamination. This determination is based on: the influence of surface water recharge to the aquifer; the presence of a relatively thin protective layer of clay overlying the aquifer; the shallow depth of the aquifer; contaminant plumes in Dayton's well field protection area; the presence of significant potential contaminant sources in the protection area; and the presence of contaminants in treated water. More information about the source water assessment or what consumers can do to help protect the aquifer is available by calling the Division of Environmental Management at (937) 333-3725.

## HEALTH INFORMATION

Some people are more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons-those undergoing chemotherapy, organ transplant recipients, 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 at 1-800-426-4791.

# 2016 WATER QUALITY REPORT

| REGULATED SUBSTANCE | HIGHEST LEVEL ALLOWED (MCL) | IDEAL GOALS (MCLG) | HIGHEST LEVEL DETECTED | RANGE OF DETECTION | VIOLATIONS | SOURCES OF CONTAMINANTS |
|---|---|---|---|---|---|---|
| **Regulated at the Treatment Plant** | | | | | | |
| Fluoride (ppm) | 4 | 4 | 1.09 | .79-1.10 | No | Natural geology / supplement |
| Nitrate(ppm) | 10 | 10 | 1.79 | 0.10-1.79 | No | Fertilizer runoff / natural geology |
| Turbidity (NTU) | TT=1 | N/A | 0.33 | 0.02-0.33 | No | Lime softening residuals |
| | TT=≥95% must be ≤ 0.3 | | 100% [1] | | | |
| Cis-1, 2 Dichloroethylene (ppb) | 70 | 70 | 0.55 | ND-0.55 | No | Discharge from factories |
| Total Organic Carbon (TOC) | TT [2] | N/A | 0.84 [2] | 0.55-.84 | No | Naturally in the environment |
| **Regulated at the Customer's Tap** | | | | | | |
| Lead (ppb) | AL = 15 | 0 | <3 | No samples > AL ND - 9.4 | No | Corrosion of household plumbing materials |
| Copper (ppm) | AL = 1.3 | 1.3 | 0.060 | No samples > AL ND - 0.190 | No | |
| **Regulated in the Distribution System** | | | | | | |
| Trihalomethanes (ppb) | 80 [3] | 0 | 23.16 [3] | 13.6-27.3 | No | By-product of chlorination |
| Haloacetic Acids (ppb) | 60 [3] | N/A | 4.75 [3] | 2.6–6.2 | No | By-product of chlorination |
| Chlorine | MRDL=4 | MRDLG=4 | 1.09 [5] | .20-1.57 | No | Water additive to control microbes |
| Coliform Bacteria (%positive/month) | 5% | 0 | 4.8% [5] | | No | Naturally present in the environment |
| **Unregulated Compounds - concentration in ppb (Average and range are shown for treatment plant samples)** | | | | | | |
| Bromodichloromethane | N/A | N/A | 1.55 | .68 –1.83 | N/A | By-products of drinking water chlorination (concentration in ppb) |
| Bromoform | N/A | N/A | .53 | ND-0.56 | N/A | |
| Chloroform | N/A | N/A | 1.15 | ND-0.97 | N/A | |
| Dibromochloromethane | N/A | N/A | 1.59 | 0.73-1.93 | N/A | |

1. Dayton complied with requirements for every month in 2015. Turbidity is used to measure the performance of sand filters.
2. Dayton complied with alternate compliance criteria for TOC regulations under the D/DBP Rule. The level reported is "average".
3. 90% of samples were <3 ppb for lead and <0.055 ppm for copper. Lead and copper were not detected in most samples.
4. Highest running annual average.
5. Highest running quarterly average.
6. In 2015 twelve distribution samples were positive for coliform bacteria. There were 1,560 samples analyzed.

*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.
MCLG = Maximum Contaminant Level Goal – 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.
MRDL = Maximum Residual Disinfectant Level—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.
MRDLG = Maximum Residual Disinfectant Level Goal. 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.
NTU = Nephelometric Turbidity Units (measure of "cloudiness")
TT = Treatment Technique – A required process intended to reduce the level of a contaminant in drinking water.
AL = Action Level-Concentration of a contaminant which, if exceeded, triggers treatment or other requirements for a water system.
pCi/l = picocuries per liter (a measure of radioactivity)
ppm = parts per million ppb = parts per billion N/A = not applicable
≤ = less than or equal to ≥ = greater than or equal to > = greater than < = less than ND = Not detected

LEAD 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 Dayton 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 water 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. A list of laboratories certified in the State of Ohio to test for lead may be found at http://www.epa.ohio.gov/ddagw or by calling 614-644-2752. 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) or at http://www.epa.gov/safewater/lead. Paint chips and other exposures are significant sources of lead exposure.

We are proud to report that the City of Dayton complied with all MCL standards for drinking water during 2015.
This report summarizes thousands of tests performed in 2015.